

CIO

Also Inside

**How to Survive
Your Company's
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Page 50

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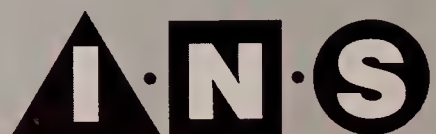
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Why CRM Is Not for Wimps Page 62

Enterprise

S E C T I O N

OCTOBER 15, 1999

194 PAGES IN
TWO SECTIONS

Also Inside

**How to Survive
Your Company's
Meat Market for
High-Demand
Skills**

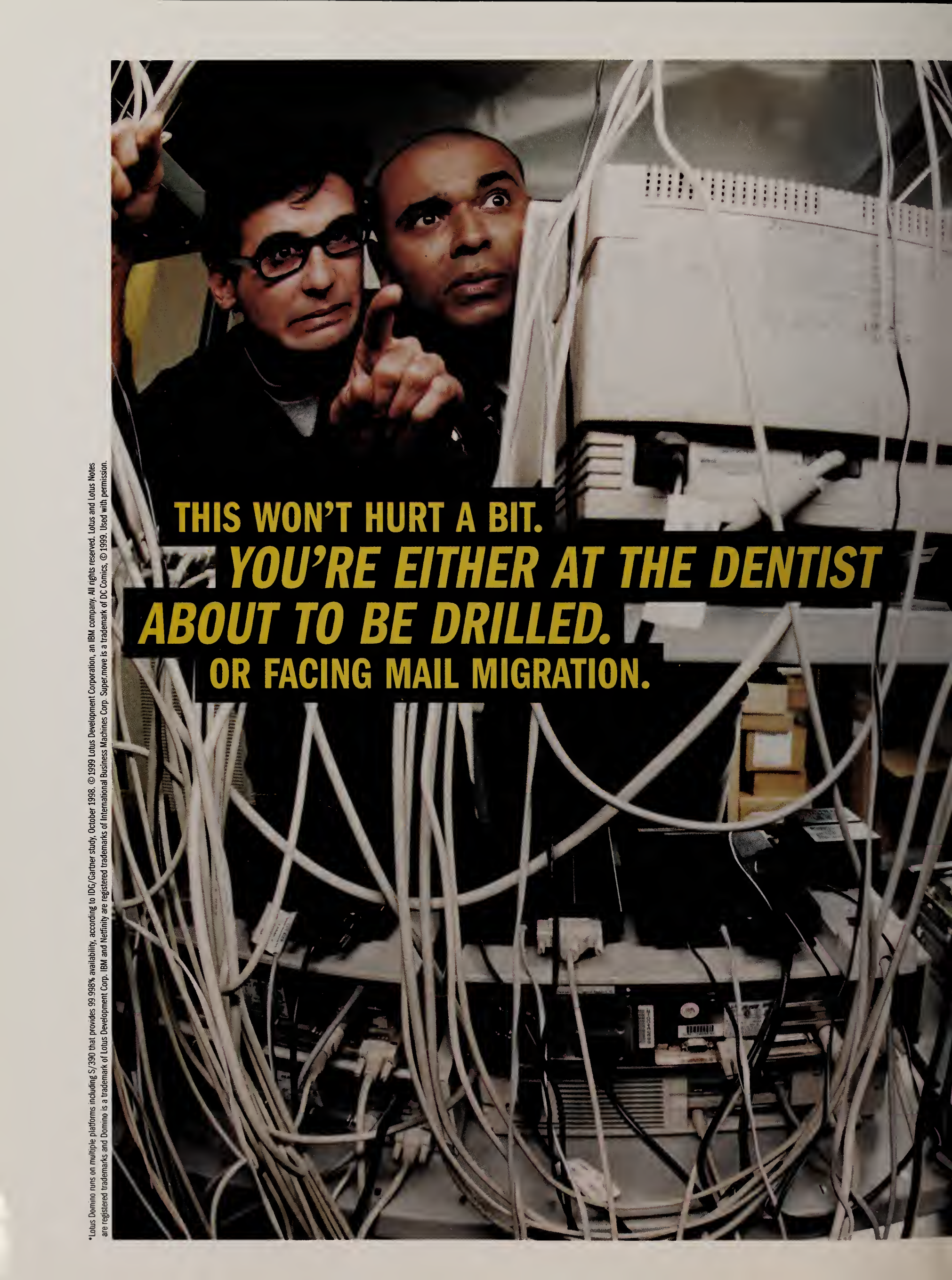
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Being VIRTUAL

**Does your business care
enough to build a vibrant
online community?**

Tom Brailsford, manager
of knowledge leadership
at Hallmark Cards, brims
with enthusiasm for an
intranet that gathers a
growing community of
Hallmark retailers

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A man and a woman are looking at a dense, chaotic mess of white computer cables in a server room. The man, on the left, wears glasses and points his finger towards the camera with a serious expression. The woman, on the right, looks up with a wide-eyed, concerned expression. The background is filled with server racks and more cables, creating a sense of overwhelming complexity.

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OR FACING MAIL MIGRATION.**

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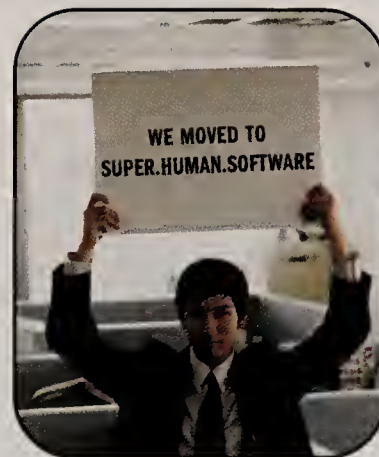
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Enterprise

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ON THE COVER Tom Brailsford of Hallmark tapped all of its resources when creating the Knowledge Creation Community. *Photo by Scott Ferguson*



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ERP CHANGES EVERYTHING

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PROJECT MANAGEMENT After a company turns on ERP, the only people who understand how the business works are on the implementation team.

ENTERPRISE LEADERSHIP After leading an ERP team, David Johns knew everything about his company's business.

E-COMMERCE Your ERP system is up and running. But do you have e-commerce?

ROUNDTABLE: STRATEGIC PLANNING For CIOs, long-range planning is an increasingly important challenge.

EXPERT ADVICE CIOs and aspiring IT managers are seeking guidance.

FORRESTER VIEW Optimize decision making for the customer and business.

EMERGING TECHNOLOGY New problem-resolution tools aim to diagnose and fix problems from afar.

SHOP TALK One CTO discusses battling software viruses.



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Re: Community Critique

"C'MON, JUST TELL ME WHAT YOU REALLY think."

Most of us have learned that when people ask for an honest opinion, they don't always mean it. Sometimes the kindest answer—"Sure, that new comb-over looks great!"—is truly the best answer.

In business, though, you can't rely on those niceties. Customers will seize upon any chance to tell a company what they think of it, especially if they have something negative to say.

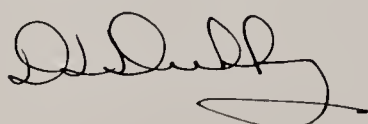
In this issue, "It Takes an E-Village" (Page 32) looks at how virtual communities can provide a forum for companies to encourage customers and business partners to share knowledge and strengthen business relationships online. Commingled with all the insightful feedback and best practice information gleaned from these communities, however, is often a healthy dose of criticism. The

Web is a natural environment for carping malcontents and other disgruntled individuals to air their grievances in a very public fashion. Whether negative feedback is framed in a well-reasoned e-mail or a flaming Web posting, companies have to be prepared to take those suggestions as seriously as they would an irate call to their customer service center.

Several sources have told me about the launch of McDonald's McFamily site on America Online several years ago. McDonald's declined to comment, but the story goes that the company designed the community to reinforce the company's carefully crafted image as a parent's best friend. Not only could parents give feedback directly to McDonald's, but they could also talk with child-rearing

experts and chat with one another on a wide range of parenting issues. The company was surprised, however, when people began to post negative comments about the nutritional content of McDonald's food and other unfavorable opinions about the organization. McDonald's finally pulled the site because it was not prepared to let its family-focused community function as a clearinghouse for Big Mac bashers.

Virtual communities may furnish a convenient soapbox for customers to broadcast their opinions from, but that doesn't make the criticism any easier for a company to take. So if you don't want to hear an honest opinion, you probably shouldn't ask.



Daintry Duffy, Staff Writer
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In My Opinion

IF YOU'RE READING THIS ISSUE of *CIO*, congratulations.

Although this is the Oct. 15 issue, I'm writing this column on Sept. 9, 1999, or 9/9/99. You have, by now, survived the doom that was predicted to occur on this date. Businesses, government agencies, utilities and banks were all watching closely for any Y2K-like computer problems. I'm pleased to say that there were no problems out of the ordinary.

The big fear was that some old mainframe computers would translate Sept. 9, 1999, into "9999," a nearly obsolete end-of-file command. Some analysts predicted that this date would affect computer systems, creating false results.

According to numerologists, the number nine is associated with spirituality and completion. In fact, they believe life progresses in nine-year cycles, with a new one starting this year.

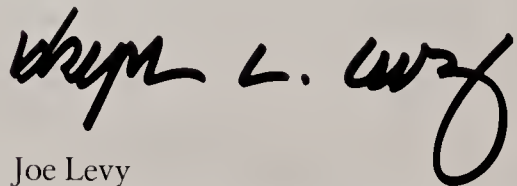
Hopefully Jan. 1, 2000, will come and go as calmly as 9/9/99, as we continue the transition from a nations-based Industrial Age to a global Digital Age. This accelerated transition will require CIOs to tackle new job parameters, new skills and new approaches as to how we conduct our day-to-day business and plan our careers.

There's no doubt about it: We live in changing times. Information,

knowledge and wisdom are transforming our lives today and even more so in the future. As CIOs and business executives, we have a great opportunity to change the world for the better.

Naturally, change brings uncertainty. But I also see tremendous opportunities. As CIOs, we must understand people's needs and wants on a global scale. Those of you who want to thrive in the years ahead will have to anticipate where technology, social trends and other change agents are leading—and get there first.

It was only 22 years ago when Ken Olsen, then chairman and CEO of Digital Equipment Corp., in an address to the World Future Society stated, "There is no reason for any individual to have a computer in their home." I'm glad Steve Jobs wasn't in the audience. We've certainly come a long way in the past 22 years. And I can't wait to see what the next 22 will bring. What's your opinion? As always, I appreciate your thoughts and comments.



Joe Levy
President and CEO, IDG Communications Inc.
jlevy@idg.com

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Ask the Expert

Have a question about knowledge management strategies? You can pose it to Wendi Bukowitz and Ruth Williams, authors of *The Knowledge Management Fieldbook* (National Book Network, 1999). From now until Oct. 31, they will be available at asktheexpert@cio.com to offer insight and advice on knowledge management and how to implement KM within geographically dispersed organizations.

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Computer Pollution

Toxic Waste Bytes

IN 1998, 22.1 MILLION PERSONAL COMPUTERS were sold to businesses, according to International Data Corp. Because most companies replace their computers every two to three years, what will be the fate of all those computers in 2001? They will either be condemned to a landfill or burned in the hell fires of an incinerator; either way, that's a ton of waste. Hewlett-Packard Co. reports that in 1997, production increases at several of its manufacturing sites generated 1.9 million pounds of hazardous waste, just under 50 percent of which (994,000 pounds) was sent to landfills.

But computers pose not just a disposal problem. Hundreds of toxic chemicals are used in the manufacture of various parts (semiconductors, chips, circuit boards, disk drives, monitors). These cause both air and water pollution and pose serious health hazards to the individuals who fabricate and assemble them in manufacturing plants, says **Ted Smith**, executive director of the Silicon Valley Toxics Coalition (SVTC), a grass-roots public interest organization based in San Jose.

Among the most toxic substances are the gases arsine and phosphine, both of which are used to deposit materials atom by atom on semiconductors. "These gases are so deadly, even a small release would kill a person instantly," Smith warns. Some of the toxic chemicals used in the manufacture of computers and other electronic devices are listed in the box at left.

Fortunately, alternatives to landfills and incineration do exist. If a computer had good karma during its lifetime, it will be reincarnated—that is, some or all of its parts will be reused or recycled. Many of the major computer and electronics manufacturers, such as IBM Corp., Hewlett-Packard Co. and Xerox Corp., have stewardship programs that encourage the design of machines that can be reused and recycled. Those companies will also take products that have reached the end of their life cycle back from customers for remanufacture.

If you would like more information on computer recycling, visit Envirocycle Inc. at www.enviroinc.com. To find out more about donating old PCs to schools, visit the Detwiler Foundation at www.detwiler.org.

—Meridith Levinson



Chemical Release

Acetone, toluene and xylene are air pollutants:
They react with gases in the atmosphere to produce **ozone**, a component of smog.

Dichloromethane has been linked to cancer
and spontaneous abortions in women who have been exposed to it in manufacturing plants.

Freon 113, a fluorocarbon, builds up in the atmosphere where it depletes the ozone layer.
When released on land, it leaches into the **groundwater** system.

Sulfuric acid in its aerosol form is a component of acid rain.

There's only one problem with the server-centric storage solution: it's server-centric.

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Organizational Behavior

All Buzz, No Brain

HAS IT EVER BOTHERED YOU that the guy in your office who talks the most seems to accomplish the least? Or that the coworker who peppers her conversation with the latest buzzwords and trendiest acronyms clearly has no clue what she's talking about? If so, *The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action*, by **Jeffrey Pfeffer** and **Robert I. Sutton** (Harvard Business School Press, 1999), may confirm your fears that talk is increasingly taking the place of



Stanford's Jeffrey Pfeffer disses smart talkers.

action in many companies, a condition the authors refer to as the "smart talk trap." In their

book, Pfeffer and Sutton, both professors of organizational behavior at Stanford University, focus on what companies can do to avoid the trap.

CIO recently spoke with Pfeffer about how executives can ensure that talk produces action.

CIO: What is causing companies to talk more and do less?

Pfeffer: In many companies, the easiest thing to evaluate people on is how smart they seem, and that's mostly based on how smart they sound. If you look at the world of business, there is a disproportionate reward placed on people who can talk about something rather than do it. You can be a plant manager and make \$80,000 to \$120,000, or you can talk about plant management as a consultant and make twice that. I think that sends a very interesting message on the value we place on being able to do something versus being able to talk about doing something.

What effect does smart talk have on companies?

Pfeffer: Smart talk is critical talk. Teresa Amabile, in an old article called "Brilliant but Cruel" (*Journal of Experimental Psychology*, 1983), found that people who gave negative book reviews were perceived as being smarter. She has this lovely line

Internet Services

Humanizing Web Sites

NOBODY CAN PREDICT WHAT users will do. Even the pros, according to **Mimi Brooks**, founder and president of Logical Design Solutions Inc. (LDS), a New York City-based Internet professional services company. She believes that for a Web site to be effective, real users need to be involved in the development process from the point of inception. LDS helps client companies study their own end users and incorporate the findings into the design and logic of their sites. "People expect that since we've been in the business a long time we should be able to predict what users will do," Brooks says. "But we're constantly surprised." LDS's performance engineers, human factor engineers and behavioral psychologists work with clients such as McGraw-Hill in New York City and Niagara Mohawk in Syracuse, N.Y., an energy company, to develop effective intranets

and consumer Web sites.

After significant research (including focus groups and one-on-one interviews), site prototypes are developed, and real client-company employees or customers test them at LDS's Usability Center in Manhattan. In workplace settings, they navigate the sites. They are asked to talk aloud about what they're doing as they click through pages to make a purchase, file a complaint or seek out information on a health-care plan—whatever users would normally try to accomplish at Web sites. Meanwhile cameras record their keystrokes and facial expressions. User slowdowns, confusion or frustration pinpoint weak parts of the sites, which are much cheaper to fix at this early stage of development. And they must be fixed sometime because there is one safe prediction about users: They'll quickly ditch a troublesome site. —Sandy Kendall



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where she says, "Only pessimism sounds profound; optimism seems superficial."

If I am making a presentation, one of the ways I can demonstrate how clever I am is to say, "Let me show you all the things that are wrong with this." If you reward people for being critical of others, most people will then fail to propose anything new, and you build a culture of negativism.

Are there particular industries that are especially susceptible to this problem?

Pfeffer: I think you see it more in large companies. The reason is that the further you get away from the work itself, whether it's programming, selling men's clothing or manufacturing chemicals, the harder it is to evaluate what a person is accomplishing and the more likely it is that people are going to be taken in by how smart someone sounds rather than how smartly that person performs.

How can executives know that they are getting smart talk rather than well-thought-out information?

Pfeffer: One of the tests that my colleague Bob Sutton came up with is that when people use big words, ask what they mean. Many people throw around terms like "complexity theory," "paradigm" or whatever the current buzzword is, but [can't define them]. I think the key issue is to keep your eyes on what people and their units are actually doing rather than how smart and clever they sound.

—Daintry Duffy

In Their Own Words

"I can afford it."

—NEW ORLEANS SAINTS RUNNING BACK RICKY WILLIAMS,
EXPLAINING WHY HE OWNS TWO COMPUTERS

Cooking Projects

Pasta Management

FROM METICULOUS PREPARATION TO ARTFUL PRESENTATION, **Al and Jackie DeLucia** recognize the similarities between preparing meals and managing successful business projects.

Husband and wife have made this metaphor the premise of their book, *Recipes for Project Success* (Project Management Institute Inc., 1999). The slim, 120-page volume is both a textbook explaining the finer points of project management and a cookbook with 12 recipes ranging from a prosaic omelet to a more labor-intensive Christmas breakfast of pancakes and sausages. (For those of you with an interest in the subtleties of soufflés and sabayon, see Julia Child's timeless classic *Mastering the Art of French Cooking*, though it won't help you manage an ERP installation.)

The book may seem half-baked at times, but the DeLucias maintain that a culinary endeavor comprises all the elements of a project: Both involve a budget and limited resources and develop through a series of phases. The authors guide the reader through the creation of statements of project scope and also provide various diagrams for outlining tasks, resources and costs involved in carrying out a project.

We don't think Al and Jackie DeLucia will be winning any James Beard cookbook awards for this work, but they may start a trend where managers "86" the MBA and seek advanced degrees at Le Cordon Bleu.

—Meridith Levinson



ILLUSTRATION BY BRIAN STAUFFER



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Plugged In

Online Publishing

The Web, Book Reviews and Slander

AFTER YEARS OF ISOLATED work in her garret, an author emerges into the public eye on the day of her book's publication. Will she be famous? Will she change the world? All right, let's be less highfalutin—will the darned thing sell?

Writing has always been a chancy business proposition, so every published author chants a prayer or two to the gods of book reviews. An enthusiastic notice in *The New York Times* can send a book to Hollywood; a negative review might shuttle it straight into the remainder bin. But as online bookstoresglom greater shares of book sales, the fate of years of work can be decided in a few hundred words from the laptop of a mean-spirited publicity hound who's never read the book. Interactive online sites, like Amazon.com, have created forums for customers to electronically post their opinions. By doing so, they have made a reviewer of every reader.

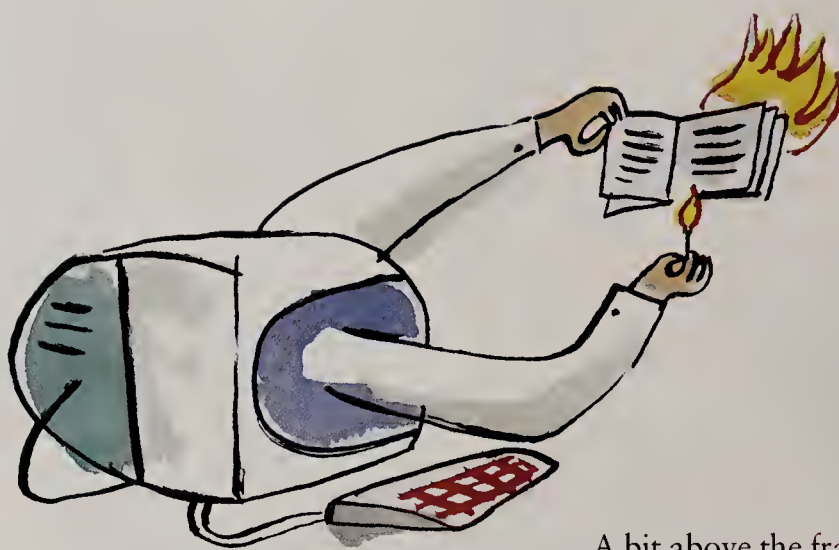
But the democratization of book reviews leaves some members of the publishing community less than ecstatic.

Bill Warren, author of *Keep Watching the Skies*, an endearing 1,200-page look at sci-fi flicks from the 1950s, is alarmed by the potential for abuse. "Anonymity without accountability is dangerous," Warren avers. Warren's book was attacked in a review at Amazon.com by an "electronic stalker," a man who has fouled Warren's online existence since 1997 when Warren posted a mildly insulting remark on a Web newsgroup. The stalker has made it his calling since then to disrupt Warren's cyberlife, posting vicious and threatening remarks

on newsgroups under a variety of names. When the bad review at Amazon.com was signed with the name of a trusted friend of Warren's, he knew that the mud-slinger could only be the stalker.

Bill Curry, Amazon.com's director of media relations, says the company screens reviews and takes down bogus ones when they are found. "One time out of a hundred, someone has a little fun," he says.

"It's not just a little fun," scoffs Warren. A negative review of a book from a small press can be financially catastrophic to both author and publisher.



A bit above the fray, **Paul Aiken**, executive director of the Authors Guild in New York City, says his organization has heard complaints from some of its members, but points out that the online booksellers have self-policing mechanisms. "The author is invited to respond [to online reviews]," Aiken says. He is more concerned with the pricing policies of online bookstores that bite into authors' royalties.

So it seems the supposedly dusty, staid world of bookselling in fact writhes in the grip of intrigue, betrayal, conspiracy, plot and counter-conspiracy—all the elements of a good read.

—Perry Glasser

Internet Economy

Net Tidbits

- The Internet economy in the United States generated more than \$300 billion in revenues and was responsible for 1.2 million jobs in 1998.
- The \$300 billion in revenues would rank 18th worldwide in terms of country GDP, behind Switzerland and ahead of Argentina.
- Internet workers are 65 percent more productive than non-Internet workers.
- The 20 largest companies that have significant Internet-based revenues have a combined market value of \$2.4 trillion.
- In 1998, total e-commerce exceeded \$102 billion for U.S.-based companies.
- The average revenue per Internet employee is \$250,000 versus \$160,000 per non-Internet business employee.

SOURCE: UNIVERSITY OF TEXAS AT AUSTIN GRADUATE SCHOOL OF BUSINESS, CENTER FOR RESEARCH ON ELECTRONIC COMMERCE

ILLUSTRATION BY ERIC HANSON



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BY DAY, POWERFUL COMPUTERS hum atop their desks. At night, the Internet beckons from their home offices. For today's wired executives, severing network connections when they travel is a traumatizing experience. To ease the distress of unplugged business travelers, Inter-Continental Hotels and Resorts has instituted 24-hour technical support staffed by a CyberAssist coordinator in each hotel. This service, found in each of its hotels worldwide, provides technicians who help guests stay connected, whether it's linking them to the hotel phone system or helping them get their scanners to scan.

The technicians attend training seminars to stay current with technology trends and developments. According to **Chris Mander**, area vice president of operations for North America and general manager of the Hotel Inter-Continental Chicago, the service is currently most in demand in Asia and cities in the Middle East. The hotel chain is looking to provide Internet access through room televisions in the future—soon travelers will be able to sit in bed and check stock prices in their pajamas.

—Kathleen Carr

ILLUSTRATION LEFT BY ERIC HANSON; ILLUSTRATION RIGHT BY BRIAN STAUFFER

U.S. Business

In the Companies of Women

Women-Owned Companies in the United States



SOURCE: NATIONAL FOUNDATION FOR WOMEN BUSINESS OWNERS, 1999

The Top 10 Metropolitan Areas for Women-Owned Companies

1. New York City
2. Los Angeles and Long Beach, Calif.
3. Chicago
4. Philadelphia
5. Houston
6. Washington, D.C., Md., Va. and W. Va.
7. Seattle, Bellevue and Everett, Wash.
8. Dallas
9. Orange County, Calif.
10. Nassau and Suffolk, N.Y.

SOURCE: NATIONAL FOUNDATION FOR WOMEN BUSINESS OWNERS, 1999. RANKING BASED ON NUMBER OF COMPANIES, EMPLOYMENT AND SALES.

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But Wait, There's More

Lazy e-commerce practitioners may go the way of the milkman

BY MEGAN SANTOSUS

FORGET ABOUT VENTURING TO THE MALL TO browse for the latest paperback novel or titanium driver. By tracking your past purchases and analyzing your preferences, your favorite Web retailer will e-mail you a customized, one-of-a-kind list of shopping recommendations selected with only you in mind. Not only will you never again have to play chicken to get a parking space, you won't even have to get up from your chair.

Like advocates of almost any new invention or trend, e-commerce companies and their hordes of acolytes are prone to hyperbole. Because of the Web, they say, companies can reach out to customers—whether they are consumers or other businesses—to offer the kind of personalized, one-to-one service that will rewrite the rules of capitalist economies.

There are just a few flaws in the acclaim of these brave new world boosters, however. For one thing, one-to-one service isn't revolutionary. If anything, e-commerce promises to return us to the days when the milkman delivered a daily quart and the Fuller Brush guy stopped in once a month. (When I was a kid, my family actually got six-packs of Coke delivered to the milk box.) Of course, it's no longer practical—both for economic and demographic reasons—for companies to ply their wares door-to-door. But to assert that the Internet will transform customer service from a realm of hostility into an unprecedented touchy-feely domain where customers feel like they're the only ones that matter is misguided at best and a dangerous mistake at worst.

Why dangerous? Complacency. E-commerce companies may think that just by building a Web site, loading it up with cookies, automated e-mail response systems and electronic shopping carts, they've cracked the code to delivering good customer service.

They're wrong. The service they provide may be personalized. But it's not personal.

People like the idea of the one-to-one service that e-commerce makes possible. In our highly generic, impersonal world of strip malls, franchises and chain stores, personalized e-mail greetings and customized recommendations remind us of how service used to be. And for e-commerce companies, the attraction of the Internet is obvious. They can expend relatively little energy to reach out and touch millions of customers.

Yet online customers are starting to clamor for good, old-fashioned human contact. A recent survey by NFO Interactive Inc. of Greenwich, Conn., an online market research and Web site evaluation company, revealed that close to 35 percent of the more than 2,300 online shoppers surveyed would buy more products online if they could communicate with a person on the other end. Of people who have not yet purchased anything online, nearly 14 percent said they would do so if they could speak to a customer service rep.

I can personally attest to the validity of the NFO survey. When I recently purchased a couple of CDs from a popular Web site, I had a few follow-up questions about shipping. I sent e-mails. I called an 800 number. My questions promptly disappeared into the cybervoid, never again to see the light of day. But every week or so, I get a friendly, personalized e-mail pitch from the site

informing me of all the great titles on sale. I am a worthwhile customer, only it's a computer that says so.

I think the next time I'm in the market for CDs, I won't head for the Web. Instead, I'll be circling the parking lot at my neighborhood mall. **CIO**

Senior Editor Megan Santosus can be reached via e-mail at santosus@cio.com.





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NIBCO's Rex Martin

The chairman, president and CEO of NIBCO Inc., a world-wide manufacturer of plumbing supplies based in Elkhart, Ind., says the pain of a major IT implementation is worth it.

When did you first become comfortable with technology?

My experience with technology goes back to my senior year in high school when I learned to program in Fortran. That summer, I got a job programming in Cobol with NIBCO. We used punch cards and all that other antiquated stuff. But my real awareness of technology's importance to business goes back to 1979 when I ran a regional distribution and sales organization. We had distributed data processing from Digital Equipment Corp. that we used to track inventory and sales.

How important is IT to NIBCO's strategy?

We revise our long-range strategy every year or so. In late 1995 we realized that our systems were fragmented. Our IT systems for manufacturing were different from our IT systems for sales. Sometimes the systems talked to each other; sometimes they did not. We knew we wanted to go to an ERP system, so in mid-1996 we commissioned a team that looked at various vendors—Baan, PeopleSoft, Oracle and some others. After six months, we settled

on SAP. People hadn't heard the horror stories about SAP yet, but we've had no troubles. SAP has been well-suited to our needs. We rolled it out on Jan. 1, 1998, but getting there nearly killed us. We had at least 150 people assigned full-time to the project, and we brought it in on time and on budget. Our cost was \$18 million, including training time, consultant time and our time. Our service to customers diminished during that time, but the pain was worth it. We're upgrading every 18 months or so, but that's easier.

And the benefits?

We took care of our Y2K problem, but that's only incidental. Our inventory from the beginning of 1998 to now has dropped 25 percent, and our fulfillment rate has risen from 80 percent to 95 percent. It used to take two or three weeks to get our monthly financials; now we are disappointed if we don't have them in two or three days. The system has been wonderful for us.

What are NIBCO's future IT plans?

We're putting radio frequency bar-coding on our products to better track our inventory, and we're pushing to expand our Web site. By year's end we'll be able to conduct transactions. This is unusual in our business. We've done EDI with our retailers, such as The Home Depot, because they said, "You do EDI or you will not do business with us," but 85 percent of our sales are to plumbing wholesalers that are not technologically advanced. With technology costs getting lower, we think wholesalers will catch up. When they do, they'll be able to check for stock on our Web site.

What's your advice to less IT-savvy CEOs?

Invest a lot of money in hiring a good CIO. We did that in 1995 when we hired Gary Wilson [as director of IT], who came to us with a lot of experience. Staffing IT is extremely competitive—you can retain top-notch people if you have cutting-edge projects.

—Perry Glasser

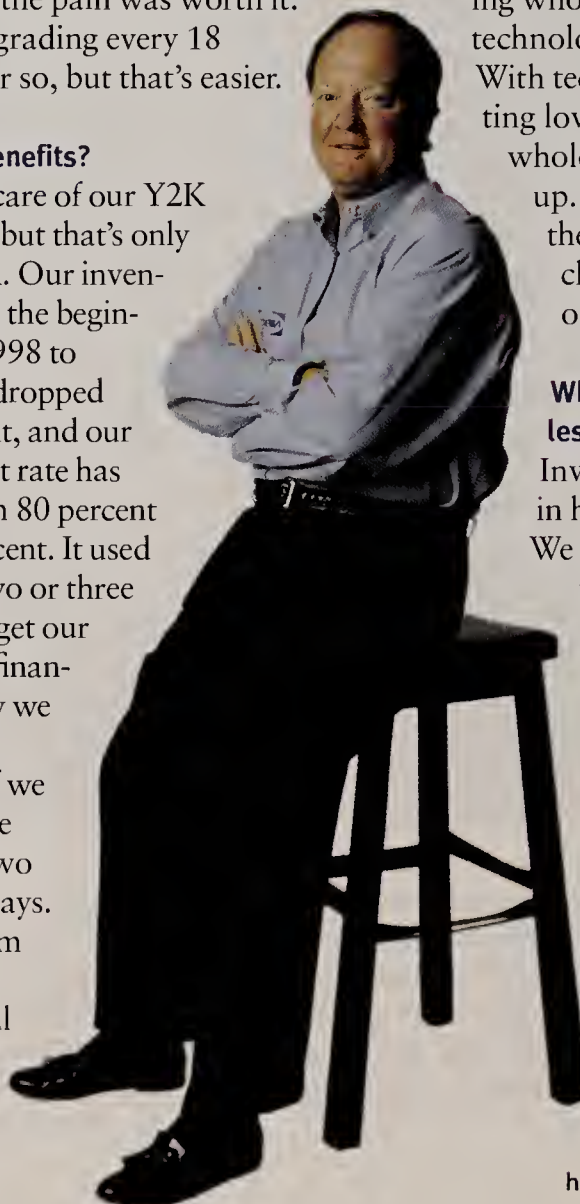


PHOTO BY BLAIR JENSEN

MODE: VISUAL

VELOCITY: BIONIC

RATE: 100% EFFICIENCY

SOURCE: CORPORATE NETWORK

10
20
30
40
50
60
70
80
90
100

MISSION: THROTTLED

INFORMATION
RETRIEVAL

350

360

370

380

390

100

110

120

130

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IT TAKES AN *E-Village*

As companies seek closeness with customers and business partners, online communities move from the Web fringe to strategy central

BY DAINTRY DUFFY

MINUTES AFTER THE REFEREE'S CONTROVERSIAL CALL, THE Arsenal Football chat site was brimming with contention as team fans and foes alike cried foul!

On Feb. 13, 1999, at London's Highbury Stadium two British football teams, Arsenal and Sheffield United, were going head to head in a fifth-round match of the Football Association Cup. The score was tied at 1-1 when, 76 minutes into the game, a United player went down with an injury. United goalkeeper Alan Kelly kicked the ball out of bounds so that his teammate could be tended to. It is an unwritten rule of gentlemanly conduct in British football

Reader ROI

IN THIS ARTICLE, readers will learn

- ▶ How to grow membership in an online community
- ▶ What assets are required to create a community that can thrive long term
- ▶ How to balance the needs of the community members with the interests of the organization



Arsenal Football Club's online community gives the organization a heads-up on its standing with fans and even player security, according to Stefan Kerner, a partner at Designercity, which operates Arsenal's site.



Tom Brailsford, manager of knowledge leadership at Hallmark Cards, lauds the company's online community where independent Hallmark retailers benefit by sharing what's under their hats.

that in such a case, the team that kicked the ball out gets the ball back, but Arsenal's new Nigerian player, Nwankwo Kanu, was unfamiliar with this British tenet of sportsmanship. He took the ball, and passed it quickly to an Arsenal teammate who tapped it past an unsuspecting Kelly into the open goal of the stunned opposition. The referee allowed the goal to stand, sparking an ugly skirmish involving players from both teams as well as United's managers and the referees. The legendary combativeness of English soccer engulfed the stadium and security guards flooded the stands to try to curb the melee.

Within the next hour-and-a-half, the site received

almost 300 messages reflecting a variety of sentiments, from support to disgust. Stefan Kerner, a partner at Designercity Ltd., the London-based Web design firm that runs the Arsenal site, reports that the press began calling to gauge fan reaction and Arsenal executives were checking out the chat groups to get a sense of the public relations mess they might have on their hands.

Online communities are probably familiar to most people as personal chat sites where people can air their opinions on topics from the safest new minivan on the market to the underlying meaning of the latest Madonna video. But corporate executives are beginning to take online communities (OLCs) seriously, no longer treating them as a trendy Web phenomenon hovering on the periphery of business respectability. Companies are harnessing the strength of those communities to manage information within the enterprise, cement relationships with business partners, expand their marketplaces and encourage product sales and brand loyalty. "In order to grow the business, you need to tap into all your intellectual assets," says Tom Brailsford, manager of knowledge leadership at Hallmark Cards Inc. of Kansas City, Mo. "You need to involve all constituencies with a stake in the [business] process." However, online communities are still the problem child of the World Wide Web. Despite their promise, it is a continuing challenge to grow and sustain OLCs as truly valuable resources for users. Communities require a great deal of work, are tough to control and have a history of biting the hand that feeds them. To have any chance of success, companies must commit to long-term invest-

ment in the community and confront the various quirks of online interaction. Before getting all fired up about community building, companies need to consider whether they are prepared to exercise the kind of tough love necessary to make it work.

What Makes a Community?

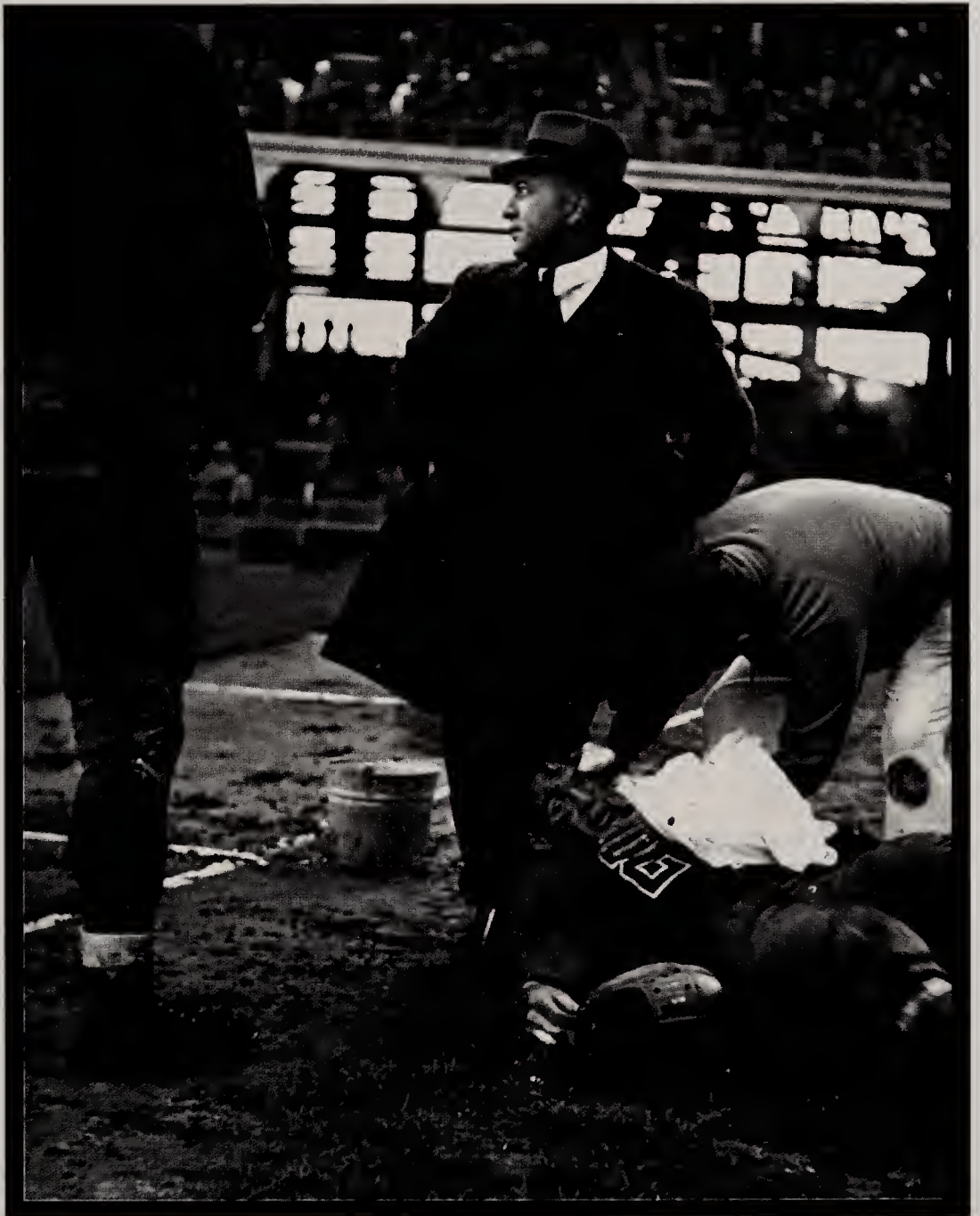
OLCs fall into three general categories: Internet communities that serve as a marketing and advertising tool, extranet communities designed to strengthen relationships with trade partners or customers, and intranet communities that facilitate knowledge sharing within an organization. In all three types, the basic challenges of creating and sustaining a community that meets the needs of the tar-

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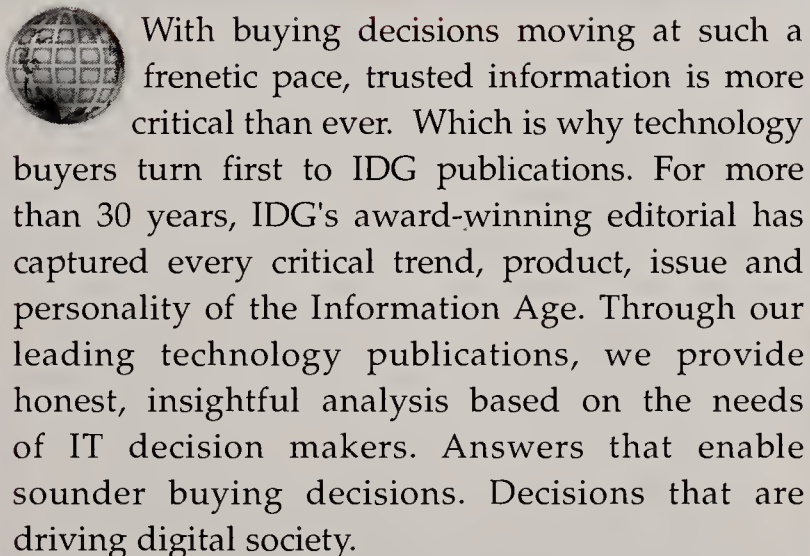
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get audience are much the same. Arthur Andersen LLP's Next Generation Research Group in Chicago studied the three types of OLCs and how they function at 15 diverse companies (including Amoco PLC, now BP Amoco PLC, Ford Motor Co., Kaiser Permanente, Anheuser-Busch Companies Inc. and

Monsanto Co.), covering how they form, operate and produce value for both members and corporate sponsors. In January 1999 the group released the "On-Line Communities in Business" report detailing their findings (see "The Seven Principles of Community Success," left).

The Seven Principles of Community Success

The "On-line Communities in Business" study conducted by Arthur Andersen LLP and released in January 1999 identified seven key factors critical to the success of an online community.

- 1 Invest in the means, not the end.** To get an OLC off the ground, companies need to put a great deal of energy into activities designed to increase participation and traffic to the community. Throwing something up on the Web with the expectation that a community will automatically result is a recipe for failure.
- 2 Focus relentlessly on the needs of the members.** In successful OLCs, the coordinators are completely focused on the needs of the members, figuring out what kind of work they do, what tools and information they need and what kind of relationships they want to form with other community members. One way to do this is to appoint former members of the community to facilitate portions of the site.
- 3 Resist the temptation to control.** Any attempts to restrict or control communication in OLCs can discourage participants from freely sharing the very information that makes the site worthwhile. Many companies circumvent this issue by creating implicit guidelines that encourage sharing tempered with common sense. An example of such a warning would be, "Don't say anything online you wouldn't say in the office or with clients and customers."
- 4 Don't assume the community will become self-sustaining.** OLCs are seldom self-sustaining. In most cases they require significant investments of time and effort to continue to grow and often need a dedicated facilitator to champion the site.
- 5 Consider environmental factors.** A company also needs to consider the cultural environment of its organization when deciding how and whether to try an OLC. A company in which information is hoarded and sharing is discouraged is unlikely to act much different online, and that will surely thwart community building.
- 6 Extend community-building beyond the discussion space.** Rather than being frustrated by low traffic in discussion areas, companies need to realize upfront that successful communities extend beyond discussion forums into other areas like e-mail and applications such as Lotus Notes. Any growth in community interaction, regardless of the medium, is a credit to the site.
- 7 Seek out and support members who take on informal roles.** When users are willing to take on positions of responsibility within the community, it indicates that they appreciate the value it provides. Possible roles for users are community advocates who encourage others to participate, leaders who guide the discussion and are knowledgeable, and instigators who provoke controversy and raise sticky issues.

—D. Duffy

One of the first obstacles in the research was defining the nature of community. Joseph P. Cothrel, research director with Arthur Andersen, notes that this is also one of the first challenges that most companies will face when creating an OLC. "The definition can be muddy," Cothrel says. "It depends on whom you are involving and what you are trying to create." The one common definition that held true for each of the 15 companies regardless of the purpose and type of community was that a community is a group of people who are willing and able to help each other. Ironically, encouraging camaraderie and information sharing among business partners and coworkers is more difficult than nurturing those same qualities between complete strangers in an online community. OLC coordinators will have to fight the natural inclination for businesspeople to hoard information as well as the fear and anxiety that always accompanies the introduction of a new concept to well-staked-out turf in business.

Member Development

Getting to know who your customers are, how they interact and what information they are looking for is a prerequisite for planning an OLC. To achieve stickiness, the quality that keeps visitors returning to a site and attracts new visitors, companies have to be more than vendors of product; they have to be vendors of experience, a transition that many find difficult.

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Kaiser Permanente's virtual community members can interact with the medical community from the relative peace of their own desktops, notes Anna-Lisa Silvestre, general manager of Kaiser's national member technology group.

A lot of companies look at virtual communities as an easy way to highlight a product or service—a form of interactive free advertising to their customers. But if they look no further, these companies won't reap all the benefits of an OLC. Virtual communities are composed of real people with the diverse opinions, needs and interests of an actual community. Companies may create a virtual venue for them to visit, meet others and exchange information, but its performance depends squarely upon the users. "As soon as people start participating they think [the site's] theirs," says Stacy Horn, author of *Cyberville: Clicks, Culture, and the Creation of an On-line Town* (Warner Books, 1998). "This is good because it means they're invested in it, but as a business person you have to realize that you can't dictate to them."

The success or failure of an OLC is usually deter-

mined by only a small percentage of the site's audience. The Arthur Andersen report found that although more than 50 percent of the community members on average accessed the company sites studied, only 5 percent to 15 percent of all members contributed frequently to them. Companies should be aware of these statistics so that they can support frequent contributors and dispel the notion that low contribution numbers mean the site isn't working.

When the knowledge management (KM) team at Hallmark Cards came up with the idea of creating an intranet-based online community for the retailers at its approximately 8,000 independently owned and operated stores, its first step was to talk to potential members. Rather than take a build-it-and-they-will-come approach, the KM group contacted some of those retailers to get input about how an online community could best address some of their needs. "Retailers really appreciated that we came to them with an idea and then asked for their suggestions," says Brailsford.

After compiling feedback from a survey of retailers that indicated strong support for a knowledge-sharing forum, Hallmark identified 30 or so retailers to be early adopters of the Hallmark Knowledge Creation Community. Retailers can share success stories on the site, such as one store's innovative hiring program in which local high school students work at the store for class credit, giving the owner a chance to preview students' performance and make paying job offers to the best workers. Another retailer increased its music sales after hooking up speakers inside the store so that a CD could play continuously and be heard by consumers passing by the display. When even a small success story like this is shared with the rest of the Hallmark community, the benefit from one person's idea can be realized by the community's 30 other retailers, transforming small suggestions into big profits. Members can also offer recommendations to the management team at Hallmark's headquarters as well as preview prod-

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Down on the Farm

Old MacDonald had an...iMac?

FOR THE AMERICAN FARMER, AN INCONSPICUOUS but avid consumer of information, farmjournal.com is where mother nature meets the mother of all inventions—the computer. When most of us think of farmers, we're more likely to think of Ma and Pa Walton, but as Bob Coffman, manager of interactive communications for Farm Journal Corp., points out, today's farmer is as wired as any other modern businessperson. "It's just another tool to them," says Coffman. "Farmers don't keep bankers' hours, and the Internet allows them to do business at 2 a.m."

Farm Journal Today (FJT), an online and print publication, was launched in 1995 to provide timely information for farmers on pricing, policy and production issues, but the Web site has evolved into much more. Not only can farmers go there to get content, they can also interact with their industry peers to trade information and opinion on weather and crop conditions as well as share best practices. Discussion on the FJT chat site includes topics like the impact of Brazilian soybean imports on the U.S. market, how trade barriers affect farmers worldwide and where the candidates in the 2000 presidential election stand on farming issues. The site receives about 2 million hits a month so far, and they are running about 65,000 user sessions per month.

FJT also maintains a database of over 20,000 farmers with detailed demographic information about each that allows agriculture-related companies to market their services to a highly targeted audience. According to research by Coffman's company, 56 percent of farmers have already purchased something online

uct concepts and give timely feedback on them. The current goal for the community is to enlist 80 retailers in the short term, which could eventually expand beyond that to include consumers and Hallmark-owned subsidiaries. If necessary, Brailsford is prepared to offer incentives to attract

with a credit card—a clear indication that they are enthusiastic online customers.

As the site continues to grow, Coffman hopes to attract an increasing number of visitors involved in international agriculture. But even as traffic expands to include farmers from around the world, farmjournal.com will continue to focus on fostering one-on-one contact and information sharing. For visitors to the site, all this new-fangled technology is actually achieving an old-fashioned result. "Weather conditions, crop conditions: It's the same thing [farmers] used to talk about in coffee shops," says Coffman. "Only now it's a virtual coffee shop."

—D. Duffy

Value Management

"[Sometimes] focusing on what people want can



Managing interactive communications for Farm Journal Corp., Bob Coffman cultivates an online community of farmers.

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"We started out knowing that we had to be able to measure the

take you away from your business objectives," points out Andersen's Cothrel, so it's important to strike a balance between the value that an OLC provides to its members and the strategic value gained by the company. If the balance in this equation is elusive, it may be a sign that an OLC is not a good choice for the company. Before creating online communities, companies need to think about what will constitute success for them and realize that the net effect of a virtual community on sales and marketing figures can be tough to identify.

Kaiser Permanente, the nation's largest nonprofit health maintenance organization (HMO), piloted its extranet virtual community to 1,000 members in 1996, offering them the opportunity to get personal attention and medical information at the privacy of their computer screen. Kaiser Permanente Online offers many health-care conveniences to patients and enables plan members to do personal health risk assessments, access a health encyclope-

dia, get general health information from nurses and pharmacists (depending on the topic), and make appointments online. Dispensing health-care advice over the Web, however carefully worded, has the potential to be a legal minefield, but Kaiser had enough faith in its plan to risk it. The result is that the site has been a boon to frustrated HMO members. Currently, Kaiser Online has 75,000 users. (For more information on Kaiser Permanente Online, see "Preventive Medicine," CIO Section 2, May 1, 1998, or find it online at www.cio.com/printlinks.) The company has also added discussion groups so that people with particular medical conditions such as HIV infection or diabetes can trade experiences and information with others who share their condition. Each discussion group has a physician, clinician or pharmacist acting as moderator. Additionally, peer moderators who are highly involved in the community and have a knack for chat are selected to steer and actively participate in

VOICE

DATA

VIDEO



Information is

benefits of community."

—ANNA-LISA SILVESTRE, GENERAL MANAGER, NATIONAL MEMBER TECHNOLOGY GROUP, KAISER PERMANENTE

the discussions. This is an important part of the program because the peer moderators often have the best understanding of the members' needs. Since the fundamental goal of the groups is to foster discussion among the members (rather than be a Q&A information service), the peer moderators are essential to developing an atmosphere of sharing and support.

"We started out knowing that we had to be able to measure [the benefits of community]," says Anna-Lisa Silvestre, general manager of Kaiser's National Member Technology Group. But unlike the rest of the site, the community discussion areas did not have tangible benefits like administrative cost-savings attached. However, Silvestre made sure that management understood that intangible benefits would also come from the site, which the community would contribute to significantly, like the improved public image of Kaiser Permanente among current and potential members. When

members were asked if the site (including the community) changed their perceptions of the company for the better, 40 percent said yes.

Moderation and Facilitation

In order to grow, communities need hosts and moderators to keep the conversation flowing and to settle disputes. Horn stresses that one of the keys is for the community coordinators to find individuals from the user base to act as hosts for discussions and online conferences. "It's like having a host at a party," says Horn. "They welcome people and tweak conversations. If sites don't have active hosts, they die. You can't just leave them unattended."

Schneider Automation (a subsidiary of Schneider Electric SA) launched an extranet online community in March 1998 for its distribution channel, which includes employees, sales channels and business partners in 130 countries, as part of a large-scale reengineering program. Schneider Electric had

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Virtual Communities 2.0

What to look for in the next generation of online communities

WHILE MOST COMPANIES ARE STILL EXPLORING THE BASIC BENEFITS OF AN online community, some are well ahead of the curve in their community efforts, offering a peek into the future of what today's Web communities may become. Communications giant Sprint Corp. of Westwood, Kan., is one of the latter. E-commerce and online community development are being fused in some organizations to form online business trading communities, where companies like Sprint can vertically expand product offerings and move into lines of business that only a few years ago would have been unthinkable. Instead of just carrying the traffic for their partners and customers, Sprint is looking to pool strengths and form strategic partnerships that will allow the company to get into e-commerce, supply chain management and sales-force automation, among other things. Dale Boeth, director of e-business for Sprint in Dallas, sees Sprint's initiative as the e-business wave of the future. He points to companies like Cincinnati-based Procter & Gamble, which has long had powerful manufacturing and forecasting algorithm systems that it now rents to other companies to use online. "Companies are looking at their processes and finding that they have competencies they didn't realize they had—and that those are marketable," says Boeth.

Boeth believes that the price of ignoring this trend could be grave. He envisions a time when companies will have aggregated to the stage where there will only be a handful of online trading communities composed of thousands of companies. Communities will be able to achieve significant cost savings (like group discounts with office supply companies) and make rapid competitive strides because of partnerships. "Companies that don't do this are going to be left on the outside looking in," warns Boeth. "They will be relegated to being a link off a Web site rather than fully integrated."

—D. Duffy

recently merged with Square D Co., and as a result, says John McElfresh, director of electronic business and communications in North Andover, Mass., "all the secret handshakes were broken." That is, the established channels through which employees got information were destroyed in the revamping; brand-new Schneider employees didn't know how to get information from headquarters, and the new corporate structure even had seasoned employees unsure of whom to go to within the organization with questions or requests.

One of the main purposes of the site was to connect members of the sales force in the field with the onsite product managers so that the two groups could communicate with each other more expeditiously. The hope was that this would boost sales because sales personnel could readily get extensive product information and could also query production managers on product specifics. Using technol-

ogy from New York City-based Transaction Information Systems, Schneider is hoping to add functionality to its site by implementing a "human active network collaborator" that will make Web access nearly as immediate to members as a telephone call. The product will allow network administrators to actually take over users' screens upon request and guide them to the information they're looking for on the site. Currently the site has more than 3,000 users who conduct approximately 15,000 user sessions per month.

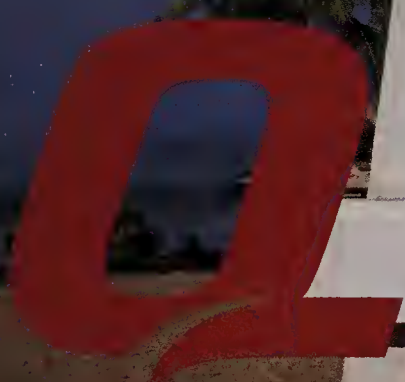
When Schneider started the community, McElfresh assigned monitors not to police the site but to ensure that users' needs were being met and to make sure that useful suggestions and conversations from the community were passed on to the individuals who could act upon them, ensuring that the discussion on the site was not just idle chatter. "There is some venting at times," he says of the dialogue that happens on the site, "but we try to use it as an opportunity to find the root cause of the problem and fix it." McElfresh identifies the company's willingness to hear criticism as one of the primary reasons the site has been so successful.

For the Arsenal Football Club, the virtual community has grown into much more than a place for fans to chat about their favorite team. It's become a strong, leveragable link between the club and its supporters. "As time goes on, the site becomes a greater part of the club's entire marketing and commercial strategy," says Kerner of Designercity. Not only has the

site become a rostrum for fan opinions to the press and the club in situations like the Arsenal/Sheffield match, but it has also allowed the fans to take a more active role in supporting the team. Kerner recalls an incident that occurred when Arsenal was scheduled to travel to Greece for a match. "Greek fans started leaving awful messages on the site saying things like, 'Prepare to die,' and making open threats against some of the players." Some Arsenal fans, who had lived in Greece and knew the deeply competitive nature of many of the football fans in that country, posted messages urging the club to take the threats very seriously. The club responded by reworking the security plans that it had made for the players. The match went off without incident. Score one for the community. **CIO**

Staff Writer Daintry Duffy can be reached at dduffy@cio.com.

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As projects increasingly involve distant offices and different functions, technology can help managers see which employees are available and which have the right skills

THE MOST TUMULTUOUS LABOR MARKETS these days are not found in the hottest industries, the fastest growing professions or the country's most booming cities and states. They are inside companies. Managers are vying with one another to find and claim the best talent within their far-flung organizations. They compete to staff project teams and to fill new positions that will report to them. Executives are also challenged each week, if not each day, to locate and mobilize employees whose expertise is critical to ensuring the happiness of external customers.

Much of this intensified, internal competition for labor stems from several larger changes sweeping corporations.

Reader ROI

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- How IT can help companies operate more efficient internal labor markets for projects
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SKILLS MANAGEMENT

- Companies that are makers of products are transforming themselves into sellers of services, so they must either develop a professional services unit or operate as if they had one.
- Corporate customers demanding seamless service have made virtual teams, spread across wide geographies and departments, a tactical requirement.

network, in which you could call a few close contacts in the company and get the name of the person you needed but didn't know, has become about as practical as sending up smoke signals. Personal relationships won't become irrelevant. But expertise is too dispersed for any little network of individuals to keep track of all the talent at a midsize, let alone giant,

"Employees can say, 'NO, I don't have the time to work on that project.'"

—JOHN BRAUN, I.T. MANAGER OF ENTERPRISE RESOURCE PLANNING, SIEMENS BUILDING TECHNOLOGIES

- Swiftly changing markets are forcing companies to reorganize, switch business models, and create and destroy product lines at an unprecedented speed. To keep pace, job roles and skills must also change quickly.

In this windswept business climate, the old boy

organization. Finding that talent is a business problem that screams for an IT solution.

At the moment, a small vanguard of companies is tackling this problem head-on, and so far the vendors who are trying to assist them have come up with only partial solutions. As often happens in an

emerging technology area, some of the pioneers who are trying to improve management of their internal labor markets are finding new ways to adapt applications originally designed for another purpose. Others are pioneering the use of new software. Some of the applications are marketed as project management software, others skills management, still others human resources or recruiting applications. The appellation matters little, other than to help one appreciate that the same problem is now being approached from several perspectives and that it may take awhile to integrate the various functions under one roof.

Most companies, although they feel pushed to address the challenge of becoming project-based, have taken little action, says Craig Johnson, an Ernst & Young partner based in Philadelphia who specializes in shared services. But few companies will be able to ignore this challenge for long.

Siemen Building Technologies' John Braun says that before they began using a skills management tool, some projects were coming in six times longer than estimated at the start.



PHOTO BY GREG GILLIS

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the engineers, marketers and project managers at Siemens Building Technologies Inc. couldn't take it anymore; neither could their internal clients. As recently as a year ago, some projects in areas such as new product development were coming in not just late—they were taking up to six times longer to deliver than estimated at their start. "We had a lot of overallocations," understates John Braun, IT manager of the enterprise resource planning department at the Buffalo Grove, Ill.-based division of the German multinational. "We'd want to do a project and knew we needed someone from IS to work with someone from manufacturing, engineering and product marketing, but when we put the plans together, we'd overcommit [those people]." In other words, managers who didn't have a clear view of all the talent available were constantly calling on the same stable of people from different departments. The inability of line managers to measure and track their employees' multiple commitments led to some workers being assigned more than 100 percent of their realistic workload by virtue of membership in several independent project teams. "The complaint you'll hear from most managers is that employees have a full-time job and get pulled into projects, so they become overworked and stressed," Johnson says.

Braun says his unit has solved this problem with a new application called Business Engine (BE), which combines skills management and project manage-

Francisco (www.businessengine.com), employees complained they were over-assigned to projects. Now they commit only to what they can handle because the line managers coordinate with project managers to verify the estimated time and skills necessary for a project. "They're changing the culture to make people take responsibility [for their own work commitments].... Someone can say, 'No, I don't have the time to work on that project,'" Braun explains. The company has used BE to manage over 300 projects across 22 departments and four functional areas (product development, manufacturing, quality assurance and product marketing). It reports that in some cases its product delivery cycle has been shortened by 25 percent to 50 percent by using BE.

As an added benefit, the software helps employee satisfaction, Braun says, because workers' varied skills become more evident to managers. All employees will have a profile in the BE tool that describes their skills, such as product expertise, software certifications, college or vocational degrees and ability to estimate costs or success at getting customer feedback. Each skill has a code, allowing managers to easily search the system for particular skills. Braun hopes to have every employee tagged for at least 10 attributes sometime in 2000. Employees can update skills at their annual review and, between reviews, have their line managers update them in BE. The result is that both managers and staff now cooperate on what expertise will be required at what time and how time-intensive the commitment will be. "We're just learning on this; it's the beginning of this new culture," Braun says. Only a year ago, "Just doing a time sheet was instant culture shock [for project team members]," he recalls. Employees, who didn't need to track their time in the past, would ask

"For any sort of internal change efforts that companies want to undertake, having a view of **QUALITY SKILLS** is critical."

—DAVID SCHNITT, NATIONAL DIRECTOR OF I.T. SERVICES, RE:SOURCES CONNECTION

ment tools and is now the basis for cooperation between project managers and line managers who used to be largely unaware of the demands each were placing on the same valued talent. "If I'm a project manager and I want, say, Tom Smith on my [team], I work with the line manager and view the BE tool and see whether I can get Tom; in some cases, he may be committed, so I might hire a contractor or a new half-time or new full-time employee. It's a good communication tool," Braun explains.

Furthermore, "Now [project team members] are contacting the project manager and saying, 'Alter my task,'" Braun says. Before using the tool, which was developed by Business Engine Software Corp. of San

him, "You want me to write down what I'm working on?" But he predicts the experiment is destined to become standard at Siemens, where it is now used to manage over 400 subject experts at Braun's Siemens Building Technologies' headquarters; he hopes it will be rolled out to the rest of the 6,000 staffers across the United States, Europe and Asia.

Searching for Skills

a strong economy has brought increased turnover not only in IT but in finance, human resources and other corporate



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“You have to give employees **VISIBILITY** of not only what projects are available and the skills sets required, but who our new clients are and where they are located.”

—RANJIT NAIR, SENIOR EXECUTIVE DIRECTOR OF H.R. AND PROFESSIONAL DEVELOPMENT, BECTON, DICKINSON AND CO.

functions. When critical talent leaves, or when a new business unit needs certain skills quickly for a short- or medium-term project, it can call on companies such as Re:Sources Connection, an executive outsourcing agency. The company provides its approximately 1,000 clients with temporary CFOs, CIOs, heads of HR and middle managers. Staffing projects—from both the Re:Sources side and the client side—is a difficult challenge, and failure is just around the corner if the right skills are not located and

deployed on both sides.

The 3-year-old company, spun out of Deloitte Consulting in April 1999, has some 1,000 employees at 28 offices in the United States and New Zealand, and is expanding to Asia and Canada. Up until now, Re:Sources has relied on a 13-page skills checklist on each of its consultants that notes education, industry background, technical and managerial skills, foreign languages spoken, willingness to travel and distance limits. But in fall

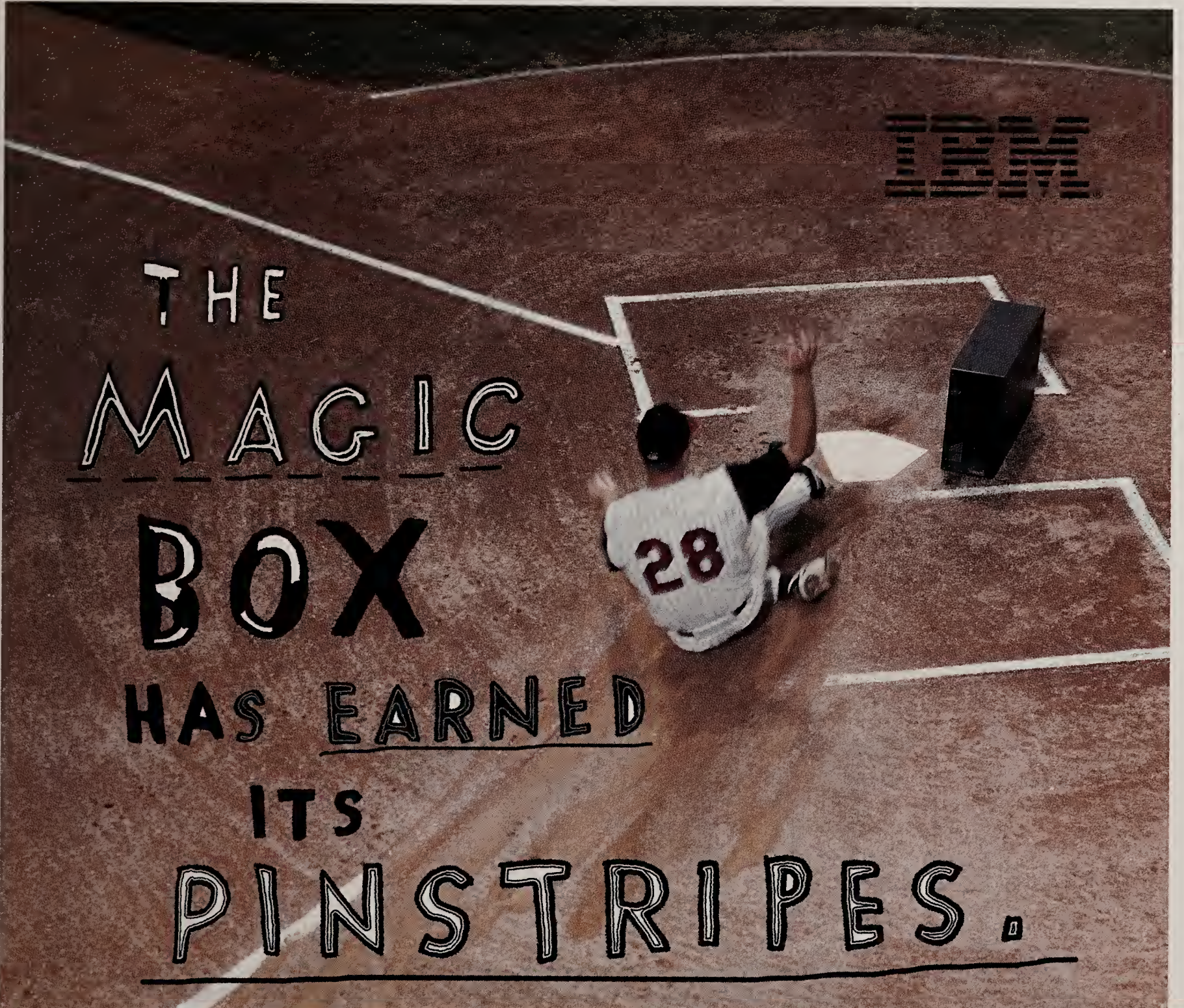
1998, it began putting much of this information into PeopleMover, a skills management application from People Mover Inc., a Manhattan Beach, Calif.-based software company, and expects to have the full staff on it by the end of 1999.

“For any sort of internal change efforts that companies want to undertake, having [a view of] quality skills is critical, so PeopleMover is critical,” says David Schnitt, national director of IT services at Re:Sources’ headquarters in Santa Ana, Calif. After consulting with a client, Schnitt or another manager performs a multifactor skill and employee preference search in PeopleMover to find the right candidate. If only most large companies would do the same when building their side of the project team with consultants, Schnitt laments.

The skills application used by Re:Sources Connection’s David Schnitt has replaced the 13-page skills checklist previously kept on each of his consultants.



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His biggest problem during more than a decade in consulting, he says, "was to get enough people from the client side who were good. Usually the people put on the team were the ones they wanted to get out of the department. If I had something [today] like PeopleMover on the client side, we would at least have an objective view [of the client's team members]."

There are still some things PeopleMover cannot do, or Re:Sources has not yet tried to do with the software. Schnitt would like to have his employees be able to search project databases to take a more active role in staffing assignments, and he has mentioned it casually to the software maker. He'd also like to

"You have to get EVERYBODY TO COMPLY and punish those who don't play by the rules."

—RANJIT NAIR, BECTON, DICKINSON AND CO.

improve the updating of his consultants' skills. "I had a guy finish a project in Los Angeles, and he had learned new stuff. I asked our assistant in the office to update his info in PeopleMover," Schnitt recalls. "Getting the data in is a lot of work." Someday, perhaps, Re:Sources will have a project management application that tracks skills during a project.

Like many trends, becoming project-based requires lots of organizational and cultural change

THE GOAL OF MAKING most of the work in a large company project-based is an emerging trend, partly a legacy of the reengineering phenomenon that swept corporate America in the 1980s and 1990s. Companies became more flexible about the way some managers were deployed and have ended up realizing that they've become project-based, says Craig Johnson, an Ernst & Young LLP partner based in Philadelphia.

Accepting a project-based philosophy means that employees have to see what projects are available and have influence over whether they participate or not, which some managers might consider a weakening of their control. But companies are already evolving in this direction, Johnson says. The first phase of the project-oriented company (which many companies are still in) is simply ad hoc creation of project teams when a

need arises. The next phase is to create centers of excellence, for example, in financial analysis under the CFO or in human resources or R&D, which become project-based. The next phase companies would like to enter, but few have, is getting the majority of management, virtually everyone not on the shop floor, to devote 60 percent to 70 percent of their time to regular jobs, and conversely 30 percent to 40 percent to projects. "It is theoretically splendid and very difficult in reality," Johnson acknowledges.

One way to hasten the transition to becoming project-based is to use the structure and IT already in place for an existing community of practice—an informal network of people in different departments who share expertise both in person and on a network. These are already common in insurance, law, consulting and other professions and

are an effective way to make employees aware of project opportunities. But cultural changes must accompany the transition so that employees accustomed to taking orders about their careers will feel encouraged to seek project opportunities. "If you create a culture that says you're not going to get in trouble with your boss if you volunteer for a project, people will nominate themselves. Then if they make a commitment, they're excited, and know they have to live by it," says Johnson. A project-based environment also requires companies to adopt, or at least understand, a matrix organizational structure in which one's mentor and boss is often not one's week-to-week manager. Such an approach challenges the power not only of managers but of the HR department, since lines of authority on who helps foster skills development are fuzzier.

—G. Abramson

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Becton, Dickinson and Co.'s Ranjit Nair wants employees to actively manage their project-based careers.



TGIF for Consultants

it's Friday at 5 p.m. at Becton, Dickinson and Co., a Fortune 500 health-care equipment and services provider. A promising future, or at least an interesting next six months or so, awaits those who haven't started their weekend early. Opportunity knocks in the form of a weekly e-mail from Ranjit Nair, senior executive director of human resources and professional development of the Boston-based Health-Care Consulting and Services division, announcing the company's recent client wins. "You have to give employees visibility of not only what projects are available and the skill sets [required],

but who our new clients are and where they are located," Nair says. His consultants in remote offices log on at the end of each week to catch this bulletin, a version of which Nair began four years ago while at Price Waterhouse LLP (now PricewaterhouseCoopers LLP).

Nair says involving his employees in actively managing their project-based careers will be critical to the success of the 18-month-old division, which aims to grow almost tenfold from 35 to 300 consultants within three or four years in the fields of materials management, surgical services, health-care IT, clinical lab and pharmaceutical consulting. There are few road maps, however. Ironically, says Nair, although the Big Five consulting firms are masters at project management, they do not excel at integrating skills management with the rest of the key processes of a professional services business, such as billing, training, operational finance, bookings and expense reporting. Instead, a new application from Evolve Software of San Francisco is becoming the cornerstone of the new Becton, Dickinson unit, because it is designed to link all the business processes of a professional services organization.

One of the most political, and therefore difficult, business processes is project staffing. In the not-so-very-old days, project managers who couldn't easily see all the staff and skills available had to work with HR or business managers. They tended to use the same people repeatedly because they were safe, known quantities. Now a manager using Evolve can see the entire staff and who is available, and is required to staff projects with the tool. But there will still be managers who try to staff via back channels, Nair warns. "You have to get everybody to comply and punish those who don't play by the rules." With a clearer view of talent, it is also more likely that two or more managers may be bidding for a potential project team member at the same time. Someone must have the authority to say which manager requested a given person first or decide which project should get priority in staffing the desired person.

Technology, in this case, is likely to help the career development of employees as well. "I think this tool will enhance the humanness of the process: You will know who the stars are, who needs help and how to develop them in areas they are weak in," Nair says. **CIO**

Gary Abramson is a former senior writer at CIO.



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Presenting a single face to the customer is easier said than done.
Here's how to manage customer relationships effectively.

BY CAROL HILDEBRAND

here's a test: CHAT WITH ANY PROPONENT

of customer relationship management. After she waxes rhapsodic for five or 10 minutes, ask for an example of a company that does CRM well. I'll give you overwhelming odds that the first name mentioned will be Dell Computer Corp. But even Dell, which indisputably leads the race to a customer-centric business world, has yet to iron the kinks out of CRM. The data gathered from Dell's online technical service, for example, isn't yet fully integrated with its phone support information, says Gary Cotshott, vice president of services at the Round Rock, Texas-based company. "We don't have 100 percent information capture of all the customer touch points yet," he admits. While he won't elaborate further, Cotshott does say there's plenty of room for improvement in Dell's customer service. In other words, even the best haven't figured out how to wring a full measure of worth from this concept.

The fact that CRM isn't yet ready for prime time hasn't stopped it from becoming one of the current darlings of the technology and business media. Tempting success stories—such as those of Dell, Amazon.com and Marshall Industries—grab headlines. An informal hype-o-rama meter, based on how many pertinent conference invites that land in my mailbox, puts CRM right up there with knowledge management and e-commerce. But mostly, CRM is like a high school locker room: lots of talk and not much action. "It's more of a concept at this point than an actual reality in the business world," says Paul Marshall, senior director of customer support at Yellow Freight System Inc. in Overland Park, Kan.

Reader ROI

READERS WILL LEARN

- Why customer relationship management, or CRM, is so hot—and so hard to do well
- Why technology is only part of the story with CRM
- How to increase the chances your CRM efforts will succeed

ILLUSTRATIONS BY MARK GAGNON

TEAM
WORK



CUSTOMER RELATIONSHIP MANAGEMENT

The whirl of CRM hype centers around an ambitious goal: building an integrated and corporatewide view of the customer. By tying together all the front-office functions that involve customer contact, companies aim to present a single face to the customer. This means that disparate customer-care information systems should be linked; a customer representative at a call center needs to know that the person on the phone also sent an

already sucked all the extraneous cash out of their back-end functions and now need to increase profits by selling more, one way or another. Since it costs far more to acquire a new customer than it does to sell to an existing one (according to Boston Consulting Group, it costs \$6.80 to market to existing customers via the Web versus \$34 to acquire a new Web customer), companies have become increasingly interested in developing long-term rela-

Pages. These Premier Pages are tailored to each corporate customer and are filled with client-specific data, such as purchasing and service histories, that can be sliced in a variety of ways: year, geographic region, product number. In fact, a corporate client can review the service history of each individual piece of hardware.

Of course, companies can use their Premier Pages to buy computers too, and the pages are customized to reflect com-

CRM represents a shift from company as order taker for its products and services to company as agent for the customer.

—MARTHA ROGERS, PARTNER AND COFOUNDER, PEPPERS AND ROGERS GROUP

e-mail the day before. More important, however, customer-facing functions such as sales, marketing, call centers and online support must become organizationally integrated. If that sounds a lot harder than putting in a piece of software, it is, says Alex Black, a Boston-based partner with Computer Sciences Corp. "I've had clients who didn't make it [with CRM] because they couldn't get past the organizational silos," he says.

This difficulty has not dampened corporate interest in CRM. A June 1999 survey by Cambridge, Mass.-based Forrester Research Inc. found that 92 percent of respondents thought that the concept was critical or very important to their company—yet only 2 percent said that they'd achieved that single face to the customer. But in spite of the disparity, CRM promises to be a lucrative market niche. Aberdeen Group Inc., a Boston-based research company, predicts that the CRM market will hit \$4.45 billion by 2001. (See "The Customer Who Would Be King," and "Know Your Customer," *CIO*, Aug. 15, 1999, or visit www.cio.com/printlinks.)

The idea of developing closer relationships with customers has been around for decades, so why the sudden fascination with CRM? Technology, in the form of memory-rich databases and the one-click immediacy of the Internet, as well as the increasing competition of a global economy, has turned an interesting idea into a competitive necessity for many organizations, says Barbara E. Bund, a professor at MIT's Sloan School of Management in Cambridge, Mass. These companies have

tionships with their customers.

Yes, CRM implementations are difficult, but therein lies the allure: The few companies that get it right will have a distinct advantage over the many that try and fail. In fact, Amazon.com considers its customer relationship strategies too proprietary to talk about. If your company aspires to be among the Amazons and Dells of the world, tick off the following checklist for a CRM reality check.

Your business model must be customer-centric

1 Like many recent trends, CRM is inextricably linked to technology. But it'll fizzle faster than a damp firecracker unless you're willing to rethink how you run your company. If your business model is not built around the customer, make it so. If you can't, don't bother with CRM.

These days, companies don't compete on innovative products. Instead, the big differentiator is an innovative business model, such as the customer-centric model espoused by Dell, says Mark Shirman, vice president of customer management solutions at Cambridge Technology Partners, a consulting firm in Cambridge, Mass.

Dell is organized by customer segment, such as education and government, instead of product lines, and its well-known Web site offers personalized customer service in the form of Premier

pany-standard hardware configurations as well as the discounts negotiated by each corporate purchasing department. Approximately 27,000 customers worldwide now have their own Premier Pages, up from 15,000 pages since January 1999, says Tina Juhl, senior manager for the relationship group online at Dell. And last August, Dell added Internet support called E-support that will eventually let all Dell systems detect, diagnose and resolve most of their own problems automatically, without human intervention.

Does all this make a difference? Andrew B. Whinston, director of the Center for Research in Electronic Commerce at the University of Texas at Austin, thinks so. He compares Dell with its Lone Star rival, Compaq Computer Corp. "Both companies essentially produce the same product," he says, "but one makes tremendous margins, while the other is gasping for air." The reason, Whinston says, is that "Dell has understood what customer relationships really mean from an economic sense."

Creating a customer-focused business model is not something to undertake lightly, since it will involve massive upheaval and internal resistance; change at the cultural level is always the most threatening. Just think, for example, of the perils of integrating sales information with the call center. Salespeople are territorial about "their" customers, says Bund, and it can require a huge leap of faith for them to trust that other functions interacting with customers will improve the relationships they've



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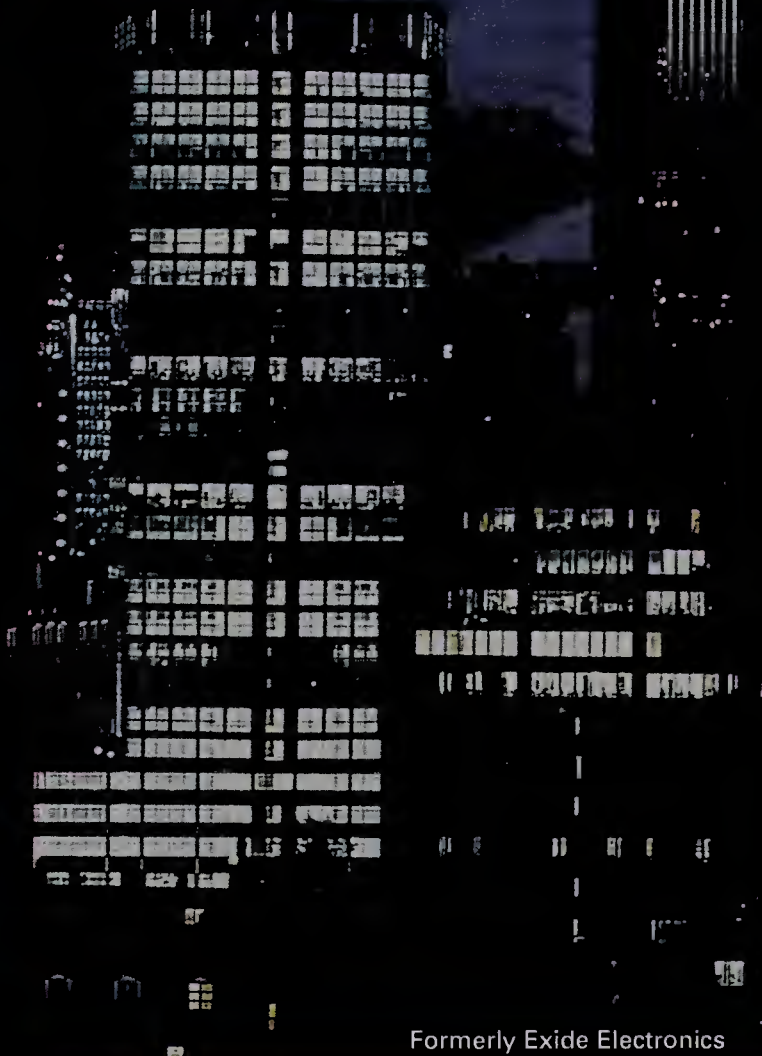


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CUSTOMER RELATIONSHIP MANAGEMENT

worked so hard to cultivate.

Companies faced with revamping their business models have a Herculean task before them, warns Yellow Freight's Marshall. The 75-year-old freight hauler is in the middle of reevaluating its customer practices with input from most of its top-level executives, and Marshall says it's a complicated process, to say the least. "Prime movers in various areas of a company need to sit down and look at CRM as an enterprise-level initiative," he says.

Some corporations are setting up separate customer-centric divisions free of the existing corporate culture and turf wars, says Whinston. If such a division grows, its customer-centric culture could end up swallowing the parent. For example, Xerox Corp. based in Stamford,

Conn., is using its outsourcing arm, Xerox Business Services (XBS), to propagate new ideas about customer service, says Tom Dolan, president of Xerox's North American solutions group. "We've tried to take the XBS service philosophy and send it through the rest of the North American organization," he says, through a combination of training programs and osmosis. The osmosis is aided by the fact that XBS, which handles onsite services such as running the corporate mailroom and document design and consulting, accounts for nearly one-sixth of Xerox's revenues, or about \$3 billion annually. "As XBS becomes an increasingly larger piece of the business, more and more people are taking its approach to heart," Dolan says.

Don't forget the customer in your customer-service relationship

2 Any relationship involves give and take; why should customer relationships differ? At its best, CRM is an ongoing dialogue between the company and its customers, says Ron Rose, CIO of Stamford, Conn.-based Priceline.com Inc., an online airfare, hotel, car and mortgage discounter. Martha Rogers, partner and cofounder of Stamford, Conn.-based Peppers and Rogers Group, says CRM represents a shift from company as order taker for its products and services to company as agent for the customer. "Instead of



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CUSTOMER RELATIONSHIP MANAGEMENT

thinking about products and finding customers for those products, companies are going to start thinking about the customers they have and finding products for them," she says. That means companies need to develop interactive

removed all management bonuses and incentives based on profit and loss numbers and replaced them with a straight salary augmented by profit-sharing in 1992. Even more astounding, he pulled his entire 600-person sales force off

Finally, enterprise resource planning (ERP) companies such as SAP AG and Oracle Corp. aim to extend their back-office fiefdoms by creating modules for front-office functions like sales and customer service. (See "ERP-Quake," CIO

"There's no one-stop shopping for CRM packages. I don't care what the vendors are saying. It's not there yet."

—MARK SHIRMAN, VICE PRESIDENT OF CUSTOMER MANAGEMENT SOLUTIONS, CAMBRIDGE TECHNOLOGY PARTNERS

relationships with their customers, and that involves far more than the rather static notion of collecting all the data you can get about the people who buy your products. If companies want a two-way conversation, customers must benefit from the relationship somehow as well. In other words, Rogers says, companies are probably going to eventually have to reward customers for information. Dell, for example, doesn't stop at putting each customer's purchasing history and associated product data on the customer's personalized Web page; customers can also download their purchase history reports and import them into their ERP systems. By sharing this valuable data with the customer—who can then analyze it to figure out how to reduce costs through purchasing efficiencies—Dell makes it harder for customers to consider doing business elsewhere.

PHH Vehicle Management Services, a fleet management company based in Hunt Valley, Md., does the same thing, using an extranet to give customers access to a wealth of information. For example, customers can analyze vehicle types and models to help make better buying decisions. Or they can examine employee driving safety records down to the individual level; the same goes with vehicle repair and maintenance histories. Not only does this program help the company increase customer loyalty, but it saves time and money on customer inquiries by offering this information on a self-serve basis. (Look for the Nov. 1, 1999, CIO Section 2 for more on PHH.)

Marshall Industries, an electronics distributor in El Monte, Calif., has gone several steps further. CEO Robert Rodin

commission and put them on the same salary/profit-sharing plan. In his book, *Free, Perfect and Now* (Simon & Schuster Inc., 1999), Rodin admits that he still gets sweaty and nervous just thinking about that decision. Ultimately, the decision paid off: seven years after implementing the new compensation plan, sales have gone from \$500 million to almost \$2 billion, with a Web site that averaged 2 million hits a week by late 1998.

Beware an immature CRM software market

3 Many software companies profess to sell CRM software. However, there is little agreement about what, precisely, CRM software is. Anything that touches the customer in any way can claim a CRM sticker; it's up to each buyer to divine what's what in this chaotic market. Software vendors from several different niches are hoping to score from CRM, says Steve Bonadio, a senior analyst at Hurwitz Group Inc., a research company in Framingham, Mass. "CRM is undergoing growth much like the ERP market did, but this market is younger and so are the players," he says. Some Web-centric products, like those offered by Silknet Software Inc. and BroadVision Inc., started as customer support vehicles for e-commerce ventures. Other companies, like Siebel Systems and Clarify Inc., have traditionally offered sales-force automation (SFA) software and have added modules such as service and content management onto their products.

Section 1, Page 38.) With such a crowded field, there are bound to be shakeouts, mergers and failures. Further, no vendor yet offers an entire soup-to-nuts CRM package, which would integrate everything from marketing and SFA to Web and phone support to back-office functions. Instead, companies concentrate on offering a slice, such as Web site personalization or customer support software. "There's no one-stop shopping [for CRM packages]," says Cambridge Technology's Shirman. "I don't care what the vendors are saying. It's not there yet." So companies that want to launch an enterprisewide CRM initiative must stitch together software packages, which takes time and money. For example, Priceline.com uses marketing automation software from Prime Response Inc. to create targeted e-mail marketing campaigns and Silknet software for online customer service support. Rose says it will take the company several months not only to integrate the packages into Priceline.com's infrastructure but to get them working hand in glove. "It's a lot of work," he says, but worth it if the end result is a seamless customer experience.

Match rewards to deeds

4 Make sure all your employee incentives are tied to customer-oriented indicators, such as customer retention and satisfaction, rather than more traditional measurements. "It makes no sense whatsoever for marketing to be rewarded for getting a bunch of new customers, sales to be rewarded for sell-

ing as much as possible, and research and development for producing products as cheaply as possible," says Rogers. "That just reinforces the silo mentality." For example, CSC's Black says that Cisco Systems Inc. of San Jose, Calif., rewards employees based on whether the company hits certain numbers in a customer satisfaction survey, and that software manufacturer Siebel Systems Inc. gives its sales force two-thirds of a commission at the time of sale and the rest upon completion of the sale—after the customer fills out a customer satisfaction survey.

Your information needs freshness dating

5 Collecting data is like mowing a lawn; you can't just do it once. "People move, marry, change clothing size," points out MIT's Bund, and companies must stay abreast of those changes. Much like a Web site, the data must be dated for freshness. Otherwise, companies will end up using outdated information to try to retain customers, a prospect that certainly hinders the chance of long-term success.

Rogers says she pondered this very issue when she went to place her regular back-to-school clothing order for her sons from Landsend.com and had to start from scratch. It would be great, she says, "if they knew that a year from now my sons would be different sizes. If they kept up with that, they could make recommendations based on that fact. I'd be pleased, and it would be an important barrier to exit," she says, meaning that she would be less tempted to shop elsewhere. In fact, she even suggests the next step: "What if I went online to order these school outfits, and Lands' End looked at my history of ordering and roughed out a recommended order for me? I could start with a shopping basket of stuff similar to what I ordered last year."



Technical integration issues are a bear

6 For many CRM initiatives, technical integration ends up being the monster under the bed.

Yellow Freight's Marshall says that as his company analyzed its half-dozen customer systems, such as service center databases and SFA tools, "we realized that we have a ton of data, but we're almost information poor because we can't tie it together and make sense of it."

Pitney Bowes Inc. of Stamford, Conn., included an IS infrastructure revamp as part of an ongoing reorganization that

started about five years ago. John Moody, president of Pitney Bowes' mailing systems U.S. division, says the reorg was designed to give the company one view—both organizationally and technically—of the customer. The company is moving from dozens of discrete customer databases to one central repository, which should provide operational efficiencies as well as an integrated bonanza of customer information. "We want to have customer visibility right through to what's happening in our Dallas warehouse," he says. "It's been an enormous investment of hundreds of millions of dollars, and it's been hugely difficult."

Priceline.com's Rose is wrestling with the knotty problem of making sure all of the company's customer information is configured such that segments from different databases and systems can be combined coherently. To do that, the data needs to use a common set of rules—in essence, similar business grammar—which is not currently the case. Transaction data, such as that found in an ERP installation, is entered (and consequently identified) by transaction. Customer service information is entered by customer number, while Web site data uses session identifier numbers. All this information needs to commingle easily if Price-

line.com is to create a complete picture of each customer. It's difficult, however, to find a common method of modeling the data that meets each function's separate needs.

In the end, CRM's challenges won't stop most companies from attempting it; there are too many competitive issues that almost force a customer intimacy initiative of some sort. So go ahead, sign up for a couple of conferences and do some research. CRM could very well be worth your while, but don't expect a cakewalk. **CIO**

Senior Editor Carol Hildebrand can be reached at cjh@cio.com.

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INTERVIEW: NEAL BIBEAU

*How the world
looks when you're
both the CIO and
marketing VP*

Double Agent

BY CAROL HILDEBRAND



osenbluth International is not known for doing ordinary things. It is, after all,

a company that built a corporate retreat and conference center in the rural hinterland of North Dakota. There executives learn team-building through exercises such as calf-branding and diving for chickens. So it's not so surprising to find that the Philadelphia-based company has a history of combining the positions of vice president of marketing and CIO. Just because marketing departments and IS departments traditionally behave like oil and water, or because marketing is usually among the last functions to understand the power of IT, doesn't mean that the two functions can't coexist...in a perfect world.

Or in Rosenbluth's world. Neal Bibeau has held the dual titles for about a year and a half and seems perfectly comfortable with a foot in each of two historically alien universes. In fact, it's proved something of a career springboard: Bibeau has recently been promoted to president of Rosenbluth's new online affiliate company, Rosenbluth Interactive. This organization, which began with Rosenbluth's acquisition of online business travel agency Biztravel.com, will eventually include a full-service personal travel site. CIO caught up with Bibeau recently to chat about the strengths of his double visionary position.

CIO: I've never run across somebody who's both the director of marketing and CIO. How did you end up with both?

Bibeau: Well, [Chairman and CEO] Hal Rosenbluth likes to be a contrarian, in a way. That is, if an idea makes sense but is a little twisted, he likes to experiment with it. That's where this came from. I'm actually the second person to hold this title. Dean Sivley was our first noble experiment.

And will it continue after you take over as president of Rosenbluth Interactive?

Not sure. We have a new president and COO, Alex Wasilov, who'll add a different element to the decision mix, and I don't know what he envisions. But historically speaking, the company has come to like the position, because [with it] you really do see a lack of bickering between market-oriented groups and the technology side. This is important. I just heard leadership guru Warren Bennis speak, and he sort of

PHOTOGRAPHY BY MIKE AHEARN

INTERVIEW: NEAL BIBEAU

slammed CIOs for not getting mainstream enough; they need to talk less technology, he says, and learn to be more generalists, and that's pretty much what this job demands too.

How have the two roles played off of each other?

I think that my technology experience has helped me on the business side because it's given me a realistic expectation of technology time frames—what's possible and what's not. This is a big problem for many business people. I also think that it helps me plan projects that don't drive technologists crazy. I've found that technologists and engineers are both very results-driven. If you give them a big project plan, with many sets of goals and priorities, they want to go out and produce. But they hate it if you make changes in that plan once they get to work on it. So I've learned to move the stakes in a little closer. It's not that I don't want them to see the whole picture of the project, I just want them to realize that the outer dimensions of the project are more subject to change. One other thing: I care a lot about scalability, reliability and performance. Business innovation is important to success, but you have to first have a reliable base upon which to build. This is missing in many Internet startups today, and we're really going to focus on it. Innovation and scalability need to move in parallel.

From the flip side, what has your business background brought to the CIO role?

I did a lot of talking to Rosenbluth executives when I first started, and that really helped. Hal and I also hit the road and talked to the folks throughout Rosenbluth about their business plans, telling them our strategies and ideas, and giving them a sense of what was going to happen and when. Then, when it came time to lock in the IT budget, I had a really good idea of what was important to the business and could budget accordingly. I also created a team called the Business Systems Architecture group, made up of IS folks, that applies busi-

ness thinking to technology proposals. It's an awful name, but a good group. What the group does is take a look at proposed technology projects and really get at the root business problem behind each request. Then we try to figure out whether technology can help this problem. If technology is a good enabling tool, we then figure out how best to implement the project. Sometimes, we've been able to simplify a proposal dramatically or suggest a solution that's not technical at all. It has saved Rosenbluth time and money, and we also implement projects much more rapidly and predictably than in the past, because we've clearly linked each project to a specific business need. The team is unique, and business people have really embraced it.

Sounds like you've built important credibility for the IS group with BSAG.

You know, it's interesting. When many IS people talk about the credibility gap, I don't think they understand that it's

not that business folks don't respect a CIO's competence. Their real problem is with the lack of flexibility that they perceive in IS. If you want to fix this perception, you have to readjust your management style from risk mitigation toward building a business and taking chances. Internet startups aren't big on headhunting CIOs from big companies, and I think it's because of what I consider a wrong focus [of these CIOs]. Too many CIOs worry that a project will fail; well, everybody has failed projects. I certainly have had some. But I still take risks. We just try to plan it so that if something doesn't go as planned, we can at least develop some part of it and have a contingency plan. Then, you just keep improving on what you have, get customer feedback and keep iterating.

But how do CIOs get a chance to build a business, as you put it?

The obvious example is in e-commerce. If CIOs want to play a leader-



“Historically speaking, the company has come to like the position, because with it you really do see a lack of bickering between market-oriented groups and the technology side.”

—NEAL BIBEAU

ship role in this arena, they have to be out there selling. E-commerce requires a business vision, and you have to get out there and network. For example, we probably have four different deals

cooking right now that have not been announced yet. Business building requires a different skill set from that needed for the old command-and-control data center. It's all about flexibility and negotiating—not mandating rules and managing risk. Unfortunately, CIOs at many companies are largely rewarded on their ability to manage risk, and, not surprisingly, that's how they measure their own success. On time and on budget are the two big success factors for most IS projects, but if you think about it, is getting something done on time the best measurement of a job well done? We don't hear enough about how the systems will double business or create better penetration over the lifetime of a customer, and that's too bad. Because

that's the real measure of a system's success.

Where do you see Rosenbluth Interactive heading?

We're aiming at the consumer market. We bought Biztravel.com, and we're going to develop a consumer site as well. (In fact, we haven't named it yet, so if anybody has any ideas, send them my way.) But we think that there are a lot of synergies that we can develop between Interactive and our parent. For example, we can play off the relationships that Rosenbluth has already established with travel suppliers. And we can start on the consumer side by leveraging the personal travel needs of our corporate customers. That way, we work with a customer base that already has trust in us. **CIO**

Senior Editor Carol Hildebrand can be reached at cjh@cio.com.

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Looking Through the Knowledge Glass

Every part of your organization must reexamine its structure and processes to truly reap KM's benefits



BY WENDI R. BUKOWITZ
AND RUTH L. WILLIAMS

THE GOALS OF KNOWLEDGE MANAGEMENT (KM) ARE THE same as any management plan: long-term organizational viability through the consistent generation of stakeholder value. But if we peer through a KM lens, we see a new and different landscape for roles and methods.

LEADERSHIP

In a KM-intensive organization, the role of the leader shifts from being the source of knowledge to managing the process through which people use knowledge. In simpler times, it made sense to direct organizational knowledge upward because that was where decisions were made. In that model, the leader was the expert. But in today's organizations, highly specialized expertise is more likely to reside in the frontline worker who operates at the point at which customers meet the company. (For more on empowering frontline workers, see "On the Front Lines," Section 1, Page 78.)

Where does this leave those who sit at the top of today's organizations? In the knowledge-driven era, leaders should no longer perch at the top of the organization but rather in the

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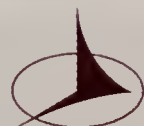
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center. Regardless of how you envision organizational design, the role of the leader has definitely changed. From a knowledge perspective, true leadership hinges on an ability to grasp the value-creating potential of the organization's knowledge base. The leader must not only set strategy but also communicate it in a compelling fashion. Neither setting strategy nor communicating it is possible without managing knowledge flows.

The shift from being the source of all knowledge flows to managing the network of knowledge flows lies at the heart of new leadership. Today's leaders must pay attention to environments rather than rules; coach rather than tell; ask the right questions rather than provide the right answers. The result is a more distributed decision-making system in which all members can and must participate. Leadership seen through a knowledge lens has far more to do with sharing the burden than it does with playing Atlas and carrying the weight of the world on one's shoulders.

CUSTOMERS AND EMPLOYEES

It used to be that employees were recruited to join companies for the long haul, often for life. It used to be that when a company developed a new product or service, development took place inside the company. It used to be that training was an investment companies made in their employees. Customers, on the other hand, though the source of organizational sustenance, were clearly outside the enterprise. They could offer feedback and the organization would be happy to take it under advisement. While it was important to keep them happy, if they left, others would take their place. Through a knowledge lens, the landscape of employees and customers looks

quite different. Employees look like customers and customers look like employees. The language used to describe employees and customers has become almost interchangeable.

With the high cost of pushing new employees up the learning curve, organizations are offering attractive incentives

the latest systems and software to make their resumes all the more attractive.

Customers look very different through a knowledge lens as well. Companies selectively recruit customers with whom they can enter into long-term relationships. They evaluate customers on the basis of whether a long-term relationship

will stretch the organization and grow its knowledge base. They even enter into partnerships with customers to co-create products or services, effectively extending organizational boundaries to bring the customers inside.

These trends reflect a new understanding that the right questions are not "Who is the customer?" or "Who is the employee?" but "How do we attract and cultivate the knowledge-based assets that will create long-term value for this organization?"

BOUNDARIES BLUR

Despite the fact that two of the major objectives of KM are customer value creation and sustaining competitive advantage, when organizations first adopt knowledge management practices, they typically choose to start with activities that fall far short of achieving these goals. Most initiatives focus on internal transfer

of best practices in an effort to minimize reinventing the wheel—the low-hanging fruit of the knowledge management tree. The benefits are obvious, measurable and consistent with current process-improvement practices. But the kinds of improvements that result from internal knowledge sharing are easily copied by competitors in a relatively short period of time.

When organizations take the leap and include competitors in their KM framework by bringing them inside the boundaries of the organization, the pos-



to retain their best employees—those who are besieged by offers from others on a regular basis, a behavior that used to be reserved for customers. Perks ranging from onsite day care to flextime are used to attract and retain desirable employees in the same way that airlines grant special privileges to their frequent-flying customers. Access to the organization's knowledge base as a means of boosting individual performance levels has been added to the mix of employee benefits, an especially important attraction for IT employees who want to learn



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sibilities for true breakthroughs are enhanced. True knowledge sharing transcends the endless recycling of what the organization already knows. Bringing competitors in triggers a case of the hives for most companies. Yet it is increasingly the case that industry viability is best sustained by collectively joining forces in the pre-competitive space. Competition is an empty promise if the industry itself lacks a future. The knowledge management lens blurs the edges of the organization that must find new ways to create and sustain value.

METRICS

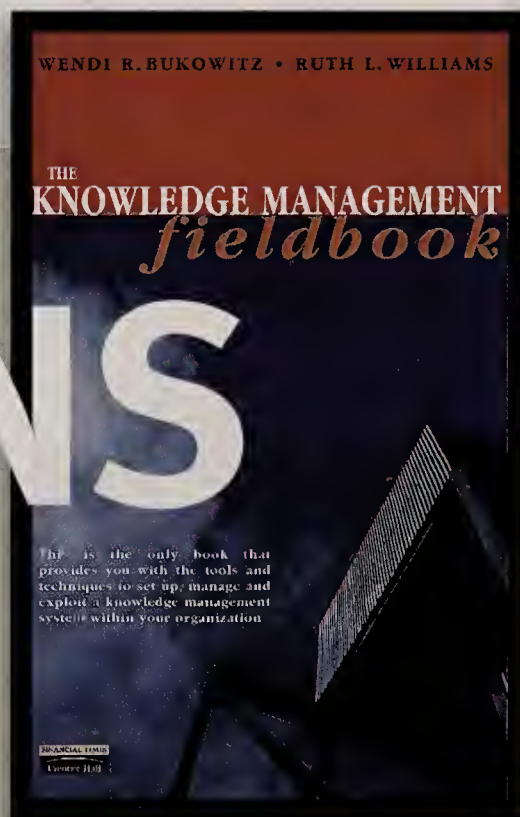
When arguing for a KM program, people are tempted to throw up their hands and insist that leadership take the benefits on faith because measurement is out of the question. Valuation does not even enter the argument.

Get ready for change. Organizational performance measurement is fast becoming the land of leading indicators, as organizations invent new ways to pre-

dict financial outcomes. Vectors and velocity have taken their place alongside point-in-time, and pictures in the form of strange new graphs like spider charts are replacing columns of numbers as organizations seek ways to envision how they are extracting value from their complete asset base. The formerly obscure science of valuation is moving out of the realm of economics and intellectual-property management to become part of the basic organizational decision-making process. Managers are being challenged to place a monetary value on the benefits of investing in knowledge-based

Knowledge

CIO chats with authors
Wendi R. Bukowitz and
Ruth L. Williams



The Knowledge Management Fieldbook
By Wendi R. Bukowitz and Ruth L. Williams
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(ISBN 0273-63882-3)
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cant percentage of their patents... and at the end of this very basic exercise, the intellectual asset management group was able to put about \$4 million to the bottom line in the first year by divesting costly, unused patents. It went on to \$40 million over 10 years.

CIO: How would you respond to the manager who says, "Knowledge management? Nonsense. This is what good management has always been."

Bukowitz: Knowledge management doesn't differ from older business theories in terms of its ultimate objective—the generation of stakeholder value. Knowledge management is a lens that helps executives focus on what they should be managing. Today's executive has to learn to identify and manage knowledge-based assets as opposed to more tangible assets.

Williams: Changes are taking place within organizations and within industries and within economies. Knowledge management is one way that you can connect the dots and create a picture of new ways of generating and sustaining wealth creation.

How does knowledge generate wealth?

Bukowitz: The Dow Chemical Co. is one of the bellwethers of intellectual asset management. That's the actual term that Dow used. About 10 years ago a small team was asked to manage and extract value from patents. The team asked units at Dow, "Which patents are you really using?" They found that they weren't using a signifi-

Williams: Business process know-how like that may be being used in only a small portion of the organization. The next step would be to look across the organization to where other pockets can benefit from that kind of shared knowledge.

In your book you talk about the vanishing middle manager. Could you expand a little bit about that?

Williams: Some early KM theorists hoped that somehow if we instituted knowledge management repositories, places to capture information, we really wouldn't need that middle manager level. What we're finding now is that a lot of organizations are hiring back those middle managers because if you are in a large organization, you not only need these repositories, you also need something that's going to connect your people to them and to one another.

Bukowitz: Ironically, the knowledge managers who are being hired to sit on top of the knowledge repositories are the new version of a middle management layer. We have communities of practice. We have knowledge networks. Middle managers are still managing connections, but they're also now managing a lot of the connec-

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tions electronically. Knowledge repositories are a great thing. But they are not the be-all and end-all of knowledge management.

Communities of practice?

Williams: Communities of practice are groups of individuals that have a common area of work focus. The members don't have to work together, but somehow they are brought together by their core practice. Professional societies can be considered communities of practice. Communities of practice are made up of people who may not report to anyone or have a specific goal in common, but really they are often bottom-up kinds of groups that share knowledge.

How can an executive encourage the establishment of a community of practice within his or her organization?

Williams: Well that's the big question. There is one argument that if you try to synthetically establish or support the communities of practice, they will disappear. On the other hand, other people argue that these communities need their visibility raised in order to be more effective. One thing that can be done by the technology is to at least make them visible. This doesn't mean throwing huge amounts of resources at them. But it could mean having people in the organization advertise their expertise using a home page on an intranet to create electronic yellow pages so that people with common interest areas can find one another.

Are there any benchmarks or metrics for knowledge management?

Bukowitz: If you're asking about a return on investment in terms of knowledge management, it's going to be difficult to figure that out because the investments are made at so many varied places.

Williams: Usually what people talk about from a knowledge man-

agement initiative is we saved X dollars. Dow Chemical saved \$4 million in the first year; Texas Instruments had a program called "Not Invented Here, But I Did It Anyway" that they say saved them millions of dollars. But it's hard to make a comparison from one organization to another.

Do business cultural issues arise with knowledge management initiatives?

Bukowitz: I think culture is often a sort of catch-all for why things don't work. The perennial lament is "knowledge management won't work here because of the culture." I think you really need to deconstruct the motivation issue rather than just point a finger at culture. If groups have to compete for resources within the organization—a model that existed in the '80s—the idea will arise that executives should get people to compete against each other. This kind of thing doesn't really work when you have a customer-facing organization. And yet vestiges of it still remain, and so those kinds of barriers exist.

Williams: At some point organizations always erect a barrier either because of processes or function, and though we matrix the heck out of it, whatever

we do there are some barriers that are more difficult to penetrate than others. What needs to be recognized is that for the purposes of organizing groups of people, these barriers are going to be erected because they provide us with focus. So there's a plus. The minus is that they obstruct knowledge flows. The challenge for the organization is to be able to open up some conduits. Knowledge management is one way to kind of poke an opening through so that information can flow. That's how technology has enabled people to connect with one another.



Wendi Bukowitz



Ruth Williams

Senior Writer Perry Glasser can be reached at glasser@cio.com.

assets. KM is forcing the tools of measurement and valuation into the hands of the operating manager who must come to grips with making investments in and extracting value from knowledge.

MANAGING ACCESS

On the information technology side, demand will continue to skyrocket for applications that help users sift through and organize information as well as add value to it. Some expert systems are already smart enough to create maps of the knowledge that people might want to access based on the knowledge that they are aware they need to seek. Intel-

ligent agents help people shop for the best deals the Internet has to offer. Sophisticated data mining techniques can ferret out trends and connections based on masses of facts and figures that would be impossible for the human mind to process.

Yet making sense of this info-glut—some of which is straightforward, some of which is heavily nuanced or context-dependent—is still beyond the reach of most technology. The growing focus on knowledge as a source of value will be accompanied by a corresponding demand for "infomediaries," people who are not necessarily content experts

but who can do much of the initial sorting, organizing, summarizing, notifying and connecting of people to information. These human filters—the librarians, the knowledge managers, the researchers and the writers—will help control the information floodgates so that organizations aren't cast adrift in a meaningless sea.

I.T. SYSTEMS: THE CONTEXT FOR CONNECTION

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dicted the true killer app—e-mail, the ability to communicate with other people virtually. Knowledge bases and rapid Internet access aside, from a knowledge perspective, technology triumphs in its ability to connect more people in more ways than ever before. E-mail, intranets, discussion forums, chat rooms—they all make the truly networked organization possible. Not only can an engineer from Sweden communicate freely with her counterpart in Venezuela, but all customers, suppliers and outside parties can be brought under the tent with relative ease.

Using knowledge across the organization is one way people choose to describe the goal of KM. But simply making information available through electronic networks hardly amounts to leveraging it. Advantage comes from conversation, the back and forth questioning, the easier access to expertise and the broadened sense of membership in different communities that virtual communication

Ask the Expert

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Have a question about knowledge management strategies? You can pose it to Wendi Bukowitz and Ruth Williams, authors of The Knowledge Management Fieldbook (National Book Network, 1999) and members of the intellectual asset management practice at PricewaterhouseCoopers based in Chicago. From now until October 31, Bukowitz and Williams will be available at asktheexpert@cio.com to offer insight and advice on knowledge management and how to implement KM within geographically dispersed organizations.

makes possible.

Knowledge management today has a decidedly schizophrenic character. It caroms from the hard-edged bits and bytes

of information technology to the softly shaped contours of interpersonal dynamics. People naturally gravitate toward one pole or the other. It's hard to tell that they are talking about the same thing. It's even harder for them to see that they are. Peering through a knowledge lens at the brave new organization, we will see the social anthropologist join hands with the software application analyst. The knowledge lens is a useful addition for organizations as they strive to make sense of the business world in which we live today. **CIO**

Wendi R. Bukowitz is a director in the intellectual asset management practice at PricewaterhouseCoopers LLP in Chicago and can be reached at wendi.r.bukowitz@us.pwcglobal.com. Ruth L. Williams is a manager in the intellectual asset management practice at PricewaterhouseCoopers LLP in Chicago. She can be reached at ruth.l.williams@us.pwcglobal.com.

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Mind Melds

Merging companies that fail to integrate their intellectual assets may be squandering the value of the merger. Knowledge management can help.

BY MARK MAZZIE

BIGGER IS BETTER!" IS THE OFT-HEARD REFRAIN OF companies announcing merger plans. In pursuit of economies of scale, the merging companies race to integrate their assets and prove the wisdom of the union to Wall Street. But while many companies hasten to integrate tangible, fixed assets, they often overlook the critical task of integrating their intellectual assets. As a result, they forfeit much of the value of merging.

Consider the tale of two large global companies—we'll call them Acme Pharmaceuticals and Jones Laboratories—that announced plans to merge in 1994. Acme played the role of valiant acquirer, rescuing Jones from a hostile buyout by another company. Intent on making the merger pay off, Acme executives concentrated on reducing costs. They eliminated fixed assets. They cut personnel. After all, who needs two sales forces when one can sell both companies' products? But in consolidating the sales force, Acme failed to consider the relative value of each sales representative and based lay-off decisions entirely on seniority. When the merger was finalized in January 1995, the company simply handed out pink slips and two months' severance pay to all Jones sales reps hired after Jan. 1, 1994.

Within weeks of the layoffs, the folly of this decision became starkly apparent. In firing its newest employees, Acme had dismissed many of its best people. Frequently, customers complained that some of the remaining salespeople possessed far less product and customer knowledge than those who had been let go. Shuffling and reshuffling the remaining staff only

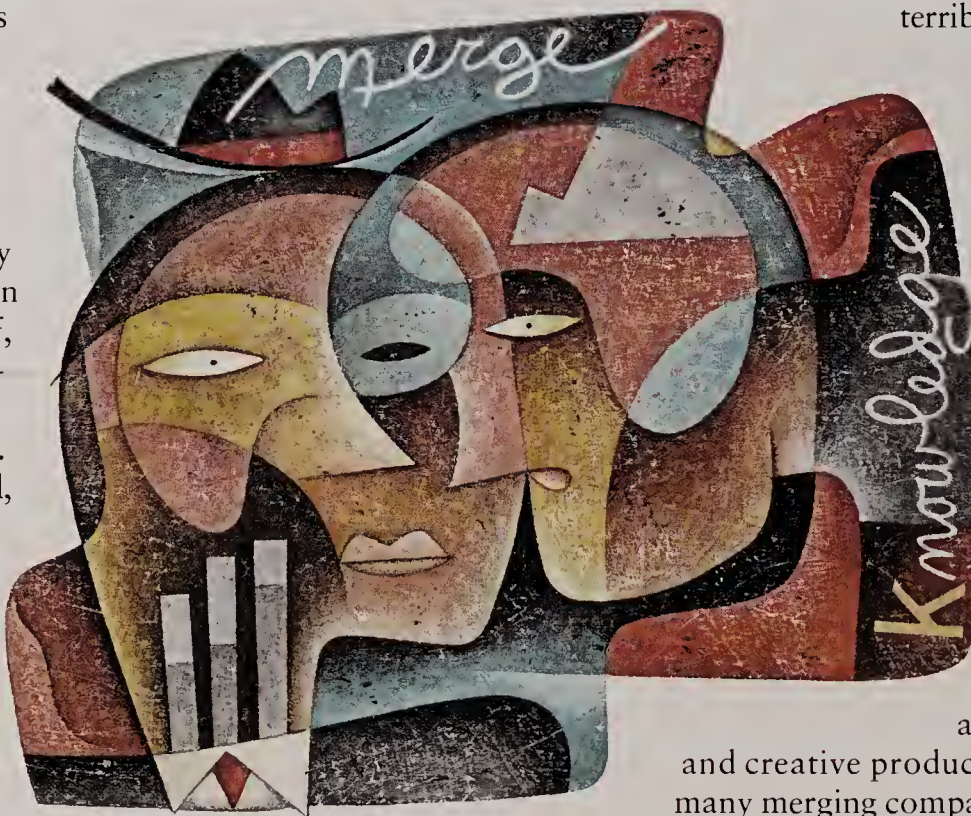
made matters worse and jeopardized customer relationships. As the problems grew larger and became a significant threat to quarterly profits, Acme relented and offered most of the Jones sales reps their jobs back in March. But it was already too late. In just two months, many of the best sales people had been hired by competing pharmaceutical firms—and were using their expertise and accumulated customer knowledge to drive down Acme market share.

As Acme's experience so vividly illustrates, it's terribly easy for senior managers

orchestrating a merger to get stuck in an Industrial Age mentality that focuses on reducing operating costs through the shuttering of factories and wholesale layoffs. But companies that want to develop long-term, sustainable competitive advantage had better safeguard their intellectual assets. As the knowledge economy evolves, Wall Street is responding by valuing companies on their ability to deliver innovative

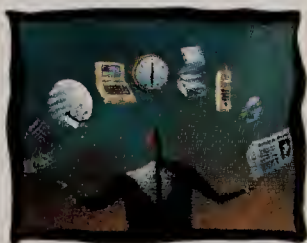
and creative products and services. Although many merging companies, like Acme, dive right into managing fixed assets, it's more critical at the outset of a merger to concentrate on retaining and maximizing intellectual assets.

Merging companies that create a system to maximize the value of intellectual assets and corporate expertise are much more likely to flourish. When culture clash hinders the integration of the knowledge and experience of both organizations, mergers are much more likely to fall far short of the expectations originally predicted by senior management. Here are concrete steps senior managers can take to avoid culture



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Intellectual Capitalism

clash and help ensure the effective integration of intellectual assets in merging organizations.

1. Communicate the merger's goals to all employees.

Many would-be mergers don't deliver all they promise because senior managers fail to develop and fully implement a comprehensive plan to clearly communicate the merger's goals and objectives to the rank and file. It's vitally important to do so—and to convince all employees that the single most important factor in building and sustaining long-term competitive advantage is the open, collaborative exchange of key business knowledge. All employees must understand how knowledge sharing will benefit them as individuals and how it will serve as the basis of future success for the corporation.

2. Act quickly.

By developing knowledge management (KM) systems at the beginning of the

merger process, companies can begin reaping the benefits right away. Involving employees in the development of those processes will encourage employee buy-in and help ensure that those processes become part of the permanent culture of the new corporation.

3. Make retention of intellectual assets a top priority.

Many companies fail to realize that the employees considered the most valuable for their productivity, innovation and knowledge are often the first to look for other employment once a merger is announced. Headhunters scour the fertile landscape and are quick to pounce on a company's best employees if they perceive that morale is lagging or the future is uncertain. Often the most creative and innovative employees are the ones who attempt to survey what the merged organization will look like, and if they are not confident of their place in the new organization they will seek

other opportunities that will keep their careers on track.

4. Resist the "us versus them" mentality.

Often senior executives neglect the importance of dismantling boundaries between the two merging organizations. As companies combine their operations, an "us versus them" mentality frequently leads to the loss of each organization's best employees. Oftentimes, these employees who strive for advancement are the first to seek the apparent stability that a competing organization can offer. And when knowledge and experience walk out the door, the ultimate value that can be accrued from the merger rapidly diminishes. Once those assets are gone (and they often go to a competitor), they are impossible to recapture. No clear-thinking manager would allow a valuable fixed asset to so easily fall into the hands of the competition. Intellectual assets should be guarded as carefully.

Tracking the Experts

An internal expert database can help merging companies tap into a wealth of knowledge

HOW DO YOU KNOW WHO KNOWS WHAT YOU NEED TO know? A conundrum if ever there was one. In the case of a merger, it's doubly so since the cast of characters representing potential knowledge sources is often twice as large. Having a database of internal experts ready to go on the day a merger is consummated can minimize organizational barriers that often impede information flow.

The first step in creating an expert database is to outline its goals and objectives. When two global computer service corporations merged, Barnett International helped the sales and business development staffs develop the following goals for an expert database:

CREATE A DATABASE that will allow the sales and business development groups to quickly identify experts who can be called on to improve service to present clients and provide expertise to prospective clients. Initially, personnel with expertise in the following areas will be identified:

- Customer processes

- Service and product implementation strategies
- Key customer relationships

EFFECTIVELY PUBLICIZE the objectives for creation of the database so that employees fully understand the benefits the database provides to them as individuals and to the organization as a whole.

CREATE A STRUCTURE to ensure that the database remains current and continues to provide value on completion of the integration efforts.

To ensure that such a database is used, senior managers must introduce it with a strong statement of support, and it must be clear that all levels of management supported its creation and recognize its value. It's also important to devote resources needed to keep the database current as well as to reward both the experts and those who use the database to seek out expertise. Experience suggests that incentives for experts and users of the database are equally important.

—M. Mazzie



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Intellectual Capitalism

5. Encourage collaboration to create a climate of trust.

When transfer of experience and expertise doesn't happen—whether between two merging companies or between two divisions of a single geographically dispersed company—lack of personal interaction is usually to blame. Employees are much more likely to share knowledge if they have developed trust and confidence in another employee's ability. The most effective method of rapidly developing the needed trust is to encourage employees to collaborate on issues that affect their daily job performance. This collaboration is most effective if the employees meet face to face; however, frequent e-mail and telephone interactions can also help build trust.

6. Identify process experts.

Even after managers have successfully cultivated a climate of trust, knowledge sharing may not occur if employees don't know who has the expertise that could help them do their jobs better. To facilitate information sharing, companies must first identify employees from both organizations who have expertise in areas that could benefit the combined business. By then compiling that information into a database of internal experts, the expertise of both organizations can be made accessible companywide. (See "Tracking the Experts," Page 88.)

7. Create an index of best practices.

By comparing the work processes of each organization, the merging company can capitalize on the best methods and strategies that each organization has to offer. To begin this process, senior management or a merger integration committee should identify each organization's core competencies or the marketplace practices that provide competitive advantage. This is often done by determining who does a given process best and then outlining what makes that method the best. The details of the most

effective execution of this practice can then be shared with the entire organization in the form of a case study. Ideally, these case studies or best practices are indexed by type (for example, sales strategy or execution of marketing plans) or by department (such as HR or R&D). Indexing best practices has two advantages. First, it helps management turn best practices into companywide standard operating procedures. And second,



the ability to demonstrate how employees from different organizations have successfully managed the process of delivering products and services to their respective customers helps build the trust needed for knowledge sharing.

8. Reward employees who have developed strong relationships with customers and industry groups.

These designated experts can be entered into a database that allows them to be contacted by other employees who need assistance with these customers or groups. Companies can recognize experts either by providing monetary incentives or by commending them in front of their peers. One of the most successful recognition programs I've witnessed is employed by a large industrial firm. At its annual sales and marketing management meeting, the CEO presents nonmonetary awards to all levels of employees who have developed and/or implemented recognized best practices.

9. Educate customers.

Ensure that the customers of both organizations fully understand the reasons for

merging. By addressing the issues of why the merger is necessary or beneficial, customers are often more likely to feel that they will continue to be important within the new organization.

10. Involve both business and IT leaders in KM planning.

Obviously, the IT departments of merging organizations must play a key role in developing systems that will enable employees to share knowledge. Senior IT executives should be involved in planning knowledge sharing initiatives from the outset.

11. Start with a big-impact KM project.

Management must decide in which area of the business—for example, sales, R&D, manufacturing, quality control—knowledge

management can have the greatest impact. The more impressive the initial impact, the more likely the remaining business areas will embrace knowledge management and develop the necessary infrastructure to ensure its success.

As the knowledge economy continues to develop, the importance of capitalizing on intellectual assets will only increase. Fixed assets were built to become extinct; every time they're used, a small part of their value vanishes. Intellectual assets last as long as they're handed down; every time they're used, the experience becomes more valuable. Few business challenges demonstrate the importance of this lesson more clearly than mergers and acquisitions. Although intellectual assets are particularly vulnerable during such times of transition, no company can afford to ignore the task of safeguarding the irreplaceable knowledge and experience of its employees. **CIO**

Mark Mazzie is chief knowledge officer at Barnett International, a global management consulting firm, and past chairman of the Conference Board's Learning and Knowledge Management Council. He can be reached at gardnerm@aol.com.

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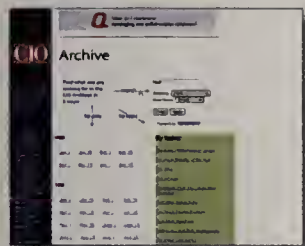
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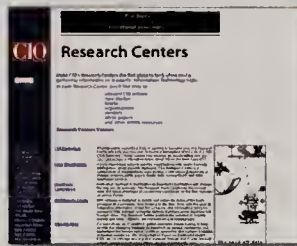
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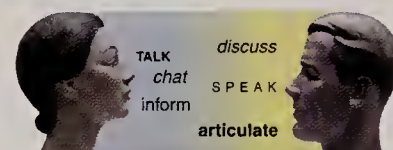
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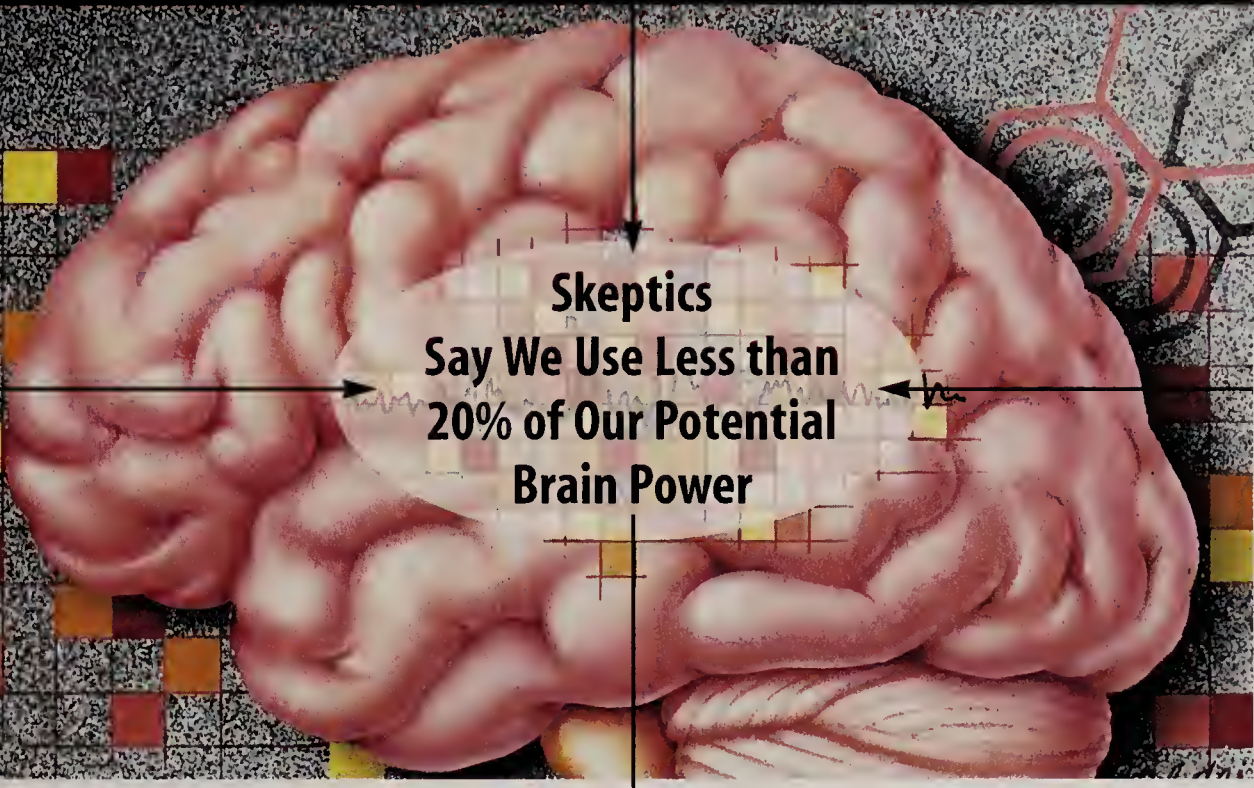
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What Is Parallel Processing?

WHEN KEN KENNEDY WANTS TO explain to the layperson what parallel processing is all about, he points them toward the clothes hamper. If the laundry has been piling up, explains the director of the Center for Research on Parallel Computation in Houston, you can spend several hours washing it all in your machine at home. If you drive to the laundromat, however, and distribute it in several machines that all work at the same time, you shrink your time commitment by several hours. Those same principles are behind parallel processing, in which lots of processors—either in one computer or inside several linked machines—gang up to work on a single problem at one time. A typical desktop PC has one processor; a computer built to handle parallel processing can have several hundred.

Who uses parallel processing?

Parallel processing has its roots in scientific industries, although its reach is slowly extending to the business world. The best candidates for parallel processing are projects that require many different computations. Single-processor computers perform each computation sequentially. Using parallel processing, a computer can perform several computations at once, drastically reducing the time it takes to complete a project.

What has it done for me lately?

You may come across the fruits of parallel processing as you drive down the highway. You know those guardrails that keep you from going off a cliff if you crash? Scientists design them using computer-generated models of vehicles and guardrails to determine strength and endurance. On a single-processing machine, testing one model can take



as long as five days. On a parallel machine, the model can be divided into sections, each of which goes to its own processor; a task that normally takes five days can be completed in several hours. Airlines use parallel processing to process customer information, forecast demand and decide what fares to charge. The medical community uses parallel processing supercomputers to analyze MRI images and study models of bone implant systems.

Does parallel processing have a place in my business?

Quite possibly. For example, think of your database as a phone book and a single processor as a person looking through the phone book for several different pieces of information. If you give a copy of the book to 10 different people and divvy up the research, chances are they'll find all the information you need more quickly than one person working alone would.

If it's so great, why don't all computers have hundreds of processors?

Switching to parallel processing demands a lot more than just adding processors willy-nilly and sitting back to admire the faster results. Parallel processing requires different platforms and methods of programming software. Scientists and engineers schooled in single-processor computation need to learn a whole new way of working if parallel processing is to come into its own.

—Meg Mitchell

Buzzwords

Symmetric Multiprocessing (SMP): A parallel processing architecture that allows several processors to complete a task simultaneously. Processors operate on one shared memory.

Massively Parallel Computing: This is similar to SMP, but each processor has its own memory instead of operating on a shared memory.

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